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## Policy self-analysis

Higher education has always been reluctant to study itself. In one sense perhaps excessively self-regarding and occasionally self-protective. It has even been bored with itself. The solitary chair in the subject, at the University of London Institute of Education, has long since passed into disuse. The study of higher education is now sustained by a small and sometimes quarrelling alliance of a few entrepreneurial professors in other disciplines who have built up a stake in the subject, the beleaguered group of those who do have a mainstream academic interest in higher education, those with a direct responsibility for administration whether at the level of national agency, valuating body, or local institution, a few more enlightened representatives of special interests, and one or two amateur policy enthusiasts.

Yet the need for sustained and sophisticated analysis of higher education policy has never been greater. Hardly a month, hardly a week, passes without some decision or new development which may radically influence the future shape of the system and so the pattern of higher education it can provide. Yet too often they are based on inadequate information, superficial analysis of the available options, and unsubstantiated research into their likely outcomes. It is difficult to escape the conclusion that many very important decisions about higher education are taken on a basis that would be quite unacceptable if academic judgments in traditional disciplines were involved. In higher education policy we are walking in the dark, making it difficult to distinguish solid features from the shadows of our own prejudices.

The result is that, although many thousands of words, many of them hot, have been spoken or written on policy choices like the University Grants Committee's selectivity strategy of July 1981, or local government's future stake in non-university higher education and the new National Advisory Body, or the relative advantages of student grants and loans, the really important questions in all three instances are no nearer a satisfactory answer.

What will be the medium and long-term effects of the UGC's decision to go for "unequal misery"? Will it lead to a stratification of the

system into research universities, research-and-teaching universities, and teaching universities, something the UGC has always denied was its intention? If this did happen what would be the consequences for both the public reputation and the academic productivity of the universities? The sad and uncomfortable fact is that we know no more than we did in July 1981. Probably the UGC is equally in the dark.

A similar point can be made about the two-year wrangle about models A (continued local authority control of the polytechnics and colleges) and B (effective nationalization under central UGC-style quango) and the eventual emergence of the NAB. Are local authorities a drag on the efficiency and creativity of the polytechnics and colleges, or are they a guarantee that more popular and relevant patterns of higher education will be maintained and prevented from plunging down the quasi-university cliff-face? We do not properly know, although heavy barrages of opinion and anecdote were laid down by both sides.

Higher education at present does not have the means to provide sophisticated answers to such questions. It is simply not realistic to expect the often uncoordinated efforts of individuals working on highly specific research programmes, of voluntary self-financing institutions like the Society for Research into Higher Education, and of fixed term inquiries like Leverhulme, to do the job. The resources they command are plainly inadequate.

But there is a prior problem. Before higher education can equip itself with the proper means to do this job, it must be convinced that the job needs to be done. At present there are two obstacles. The first is the belief that what universities, polytechnics and colleges need is an enhanced capacity not for policy analysis but for more aggressive political lobbying. Whether this lobbying should take place in the House of Lords or on the streets is, of course, another question but for the purposes of this discussion a secondary one. The main flaw in this belief is that more successful lobbying nearly always requires more sophisticated research and analysis as ammunition in argument, and that higher education does its cause no good by acting

as if its value is self-evident and no one else's business when quite plainly it faces choices as difficult and in which the public interest is as much engaged as any other traditional institution.

The second obstacle is the prejudice that the study of higher education is part of social science, which is too hard, too abstract, and too difficult to teach, and worse still, a sub-sector of the discipline of education which enjoys low academic prestige which in turn no doubt reflects the value British culture places on teaching. This prejudice often takes the form of a myopic underestimation of the study of higher education (the SRHE is unfairly stigmatized as being all about "chalk and talk"), just as one former vice-chancellor regarded detailed higher education policy as "something for the registry" or rather more positively of a demand for the development of policy analysis in general rather than confined to higher education.

It might be possible to have sympathy for this last view if the attempt to establish a "British Brookings" had not suffered the same process of demagogic attribution. In its final scaled-down form as the Technical Change Centre this institution is hardly likely to become involved in the study of higher education except in the most peripheral way. Similarly, the Policy Studies Institute, chronically dependent on "soft money" and so a servant of special interest research is unlikely to move far into territory that is politically unpopular, financially barren, and the inhabitants of which seem largely uninterested in the very idea of policy self-analysis.

The wisest course is to have modest and realistic ambitions, while continuing to press the case for improved capacity for the study of higher education policy. But it is surely no less ambitious at a time of great turmoil, even crisis, in higher education than the familiar contours of the landscape laid out by Robbins and Crossland in the 1960s are becoming more and more obscured, to suggest that a unit for the study of higher education policy should be established by the DES, IGC, NAB, CNA, and any other agency or institution with a pressing interest in the difficult choices that must be made in the 1980s.

## The roots of culture

"Culture" has become a clunkish catch-all word that can as easily obscure as illuminate insight. "High culture" became the "two cultures" became "youth culture", each time undergoing a shift of meaning, a broadening to some an attenuation to others. What was once a specific description of organized cultivation became first a useful indication of the historically grounded experience and outlook of distinguished groups, and ended by being not much more than a label meaning superficial and transitory life styles. "Culture" still worked as a word when it had been captured by the Raymond Williams and the Richard Hoggards but now it has probably been irreparably damaged by its new address captivity.

It was the second of these three meanings of "culture" that Bernard Crick probably had in mind when he wrote recently in his *THES* column how the universities had largely abandoned and the polytechnics maintained (possibly under some other obligation to that culture, no doubt). Already some universities may be cunctating up the visitors to their art galleries, theatres, and public lectures as part of their defence.

Yet such statistics alone cannot conceal out that shrapnel of ignorance from the city centre shopper who asked the way to the university. Universities may have maintained, even increased, their contribution to the culture of their cities, in the first restricted sense, but in a broader Hogartian sense they have long since retreated from any obligation to sustain civic culture. Gown triumphed over town long ago.

Of course, some will say that Professor Crick, being far too fair to the city centre shopper, is too far to the left. Perhaps. But apart from cropping up on the council agenda from time to time, occasionally pointedly, some polytechnics have links with their local community similar in kind and quality to the universities. The trouble in both cases seems to be that the very large number of detailed links, which are likely to grow with the increasing importance of continuing education and its emphasis on short-course and part-time higher education, do not add up to a coherent total relationship which can engage the attention of others than those directly involved in the vigorous trading between institution and community. Perhaps to some extent this total relationship is an unrealistic myth, or at least a little more the trinity of custom. If the city centre shopper is more likely to

be able to direct you to the "poly" than the university it may mean very little. Nor are polytechnics necessarily typical of the non-university sector. Many colleges, after all, have quasi-monastic traditions which until very recently demanded a degree of isolation from the community which would have regarded as unnecessary. Some will even say that Professor Crick is being sentimental; that civic dying in a consumerist, high-technology, McLuhanesque world; that it cannot be recalled with its old force any more than trans or totalitarian; and that higher education is one of the key instruments of modern society cannot afford to pay much attention to such unprofitable nostalgia. Perhaps. Utopianism has always had its reactionary as well as its futuristic aspect, but it does not lose its value for that reason. Higher education has probably become too much a part of conferences on green fields and pines. It is much more than a question of good public relations. Too often higher education seems to have set its face against the affective, but in its pursuit of the cognitive, but maybe also moral and even depersonalized, values of rationality.

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## Target failures answer UGC back

by Sandra Hampel and Olga Wojtas

Universities accused of admitting too many students have stood up to criticism from the University Grants Committee, which met yesterday to consider their case.

Five of the small group involved have replied by merely restating their difficulties, already known to the UGC, and two have added that if the committee took less time to make decisions their planning problems would be made easier.

The UGC wrote to Bradford, Dundee, Heriot-Watt, Hull, Keele, Salford and Swansea on December 10 asking for comments on last autumn's intake of students by the first week in January. The committee said it doubted that these universities would be able to achieve their 1984/85 targets.

The greatest culprits are Dundee and Heriot-Watt whose admissions were more than 10 per cent over target, followed by Keele, Salford and Swansea.

Bradford, which admitted 41 students over its 1,020 target in 1982, reminded the UGC that 70

per cent of its courses are for four years and that it will not, therefore be able to reach its target by 1984/85.

"The university has always stressed that its student numbers will exceed the target by 200-250 in 1984/85 but will reach the target by 1985/86", the UGC has been told. "Our intake in 84/85 exceeded the planned intake by less than 5 per cent and will not jeopardize student number targets being achieved by 1985/86".

Keele, similarly, has told the UGC that it appears to be over target because it has a large number of four year courses. "We don't anticipate being significantly over the target figure by 1984/85", an spokesman said. "We have reminded the committee that clearly universities will move at different speeds because of individual complications."

Hull believes that the UGC was looking at its October intake and expecting this figure to go up by around 30 over the following three months because of late admissions. "In fact our total intake by December at 1,457 was only one or two higher than that in October," the university said.

## Survey backs pay claims

by David Johns

Graphic evidence of the bleak prospect for thousands of college lecturers is to be presented to management and union negotiators next week.

A survey hearing into union claims that many staff are stuck at the top of the Lecturer 1 grade has been prepared for Monday's meeting of the Birmingham further education committee review group. Union negotiators will use it to support their claim for radical reform of the salary structure for staff teaching largely on non-advanced courses.

But the employers are equally likely to claim that such a gap would reduce further education's competitiveness with the Manpower Services Commission skills centres and private sector training establishments. They want to introduce a new grade of supervisor below the existing lecturer scale to reduce crisis - a move being strongly resisted by the teacher unions.

The case for far-reaching structural changes was referred to the review group after the Wood arbitration, but the employers lodged a fundamental critique paying particular attention to "academic drift" and its effect on pay scales. The employers alleged that advanced lecturer was moved from lecturer to lecturer for salary rather than educational or management reasons - a claim rejected by the National Association of Teachers in Further and Higher Education and by the college principals.

The survey shows that of a sample of more than 3,000 staff of all grades, 10 per cent of L1s on the top of the scale had been in the L1s for 15 years or more. More than half the L1s in the survey had salary points, no less than 31 per cent of them starting their careers at the maximum, currently £3,368.

The L1 scale was extended upwards by one point in 1979 but this merely provided some compensation for older L1s. Last year's salary settlement was heavily weighed to give extra compensation but union negotiators argue that the only solution is to remove the barrier.

University unions' hopes for simultaneous submission of the 1983 salary claim have run into difficulties.

Negotiations on key structural points of the manual workers' 1982 salary settlement was reached in the summer. But union leaders are insisting that the discussions should be completed before the 1983 claim is lodged.



Students who fear that High Wycombe, Buckinghamshire has become a prime target for nuclear attack have taken the lead in establishing a permanent peace camp at the gates of Daws Hill United States Air Force base. The base is the Americans' full-back European war headquarters and is also said to be the planned centre for Cruise missile control and guidance systems.

Passers-by seem to be generally sympathetic to the protest, but have personnel have been warned not to speak to the campers. A national day of action is scheduled for January 29.

## Academics back British economic policy centre

Leading academics have backed a proposal to set up a new British economic policy research centre to project British economics on to the international stage.

The scheme is already well advanced with crucial financial, administrative and academic support guaranteed by the Social Science Research Council, the Rockefeller foundation, the Esmeé Fairbairn and the Leverhulme trusts, and Chatham House.

The centre is the latest attempt at a series dating from the 1970s to establish a prestige policy centre in Britain matching those found in America and Europe.

The centre would follow the Chatham House model. It would involve 40 to 50 eminent economists as associate fellows appointed for limited but renewable periods, probably a three-year term. There would be no full-time or tenured fellows, and about a third would be under 35.

A financial target of close to £1m has been set up to cover overheads for the first five years, plus a longer term endowment target of about £4m. The proposers are still looking for further support.

Sir Keith's eight points for the conference, held last week in Liverpool, were headed by the need for more variety. "There is a tendency to convergence even in subjects with great scope for differences of approach," he said. "Teachers are the chief change agents for the development of a wider range of curriculum."

Better information for students and potential students; further opportunities for "education life-long"; the development of distance learning; better provision for young people of modest ability who stay in full-time education beyond the age of 16; and the re-evaluation of Sir Keith's existing staff composition in spite of the Government's "new blood" initiative, he said.

## Challenge to Marx scholars

from Paul Flather

Painstaking detective work by a Dutch academic threatens to disturb more than 30 years of Marxist scholarship by challenging some of the humanist philosophical roots ascribed to the work of the young Karl Marx.

The researcher has confirmed that the 1844 *Paris Manuscript* kept in the Amsterdam institute where he works and first published in 1932 are nothing more than a collection of working notes and rough ideas.

Mr Jürgen Rojahn presented some of his findings last week to an international conference of labour historians led in Linz, Austria, to mark the hundredth anniversary of Marx's death. It was the first of some 30 international conferences this year.

The findings could be a serious blow to the work of Marxists such as Erich Fromm and Herbert Marcuse who used the ideas of alienation and human essence to underpin their theories. For orthodox Soviet Marxist-Leninists they will be welcome ammunition against Hegelian-style Marxism.

Professor Eric Hobsbawm, emeritus professor of economic and social history at Birkbeck College, London, who attended the conference, described the findings, if true, as "nothing short of a death charge in the world of Marxist scholarship".

Mr Rojahn was alerted to the *Manuscript* in 1974, and was puzzled to find that the pages were often blank and in random order. After careful scrutiny of page size, page numbers, Marx's writing, and number of columns used, he concluded they were never formally published by Marx, and should probably have no formal status at all.

Mr Rojahn makes modest claims for his research, but the findings stirred passions at the conference. A West German historian claimed that after all the affairs of 1982-89 they could now "set up a dam that can really hold up the flood" of humanist Marxism.

Russian members of the Marxist-Leninist Institute of Moscow, which holds most of Marx's papers, ironically missed the point.

Russian members of the Marxist-Leninist Institute of Moscow, which holds most of Marx's papers, ironically missed the point.

Mr Rojahn said he had more work to do and did not like the competition between East and West although he found the work very exciting.

British academics thought the paper could have interesting ideological effects but the main thrust of Marx's ideas would not be severely undermined.

Leader, back page

## Sir Keith calls for more consistency

by John O'Leary

A call for higher standards and more involvement of commerce and industry were among eight suggestions for the improvement of further and higher education in Sir Keith Joseph's speech to the North of England Education Conference.

Sir Keith, Secretary of State for Education, told the conference: "Across everything there must be higher and more consistent standards. I make no sweeping criticisms, but we cannot be confident. Perhaps in higher education we need a more developed system of external examinations; perhaps there are advances

to be made in the practices and approaches of validating bodies."

He said he would like to see more influence exerted on the curriculum by industry and commerce, although he conceded that much of further and higher education already had a satisfactory record in this respect.

Although the Government could help, it was up to the heads of institutions and departments to make further progress.

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# News in brief

## Unions plan joint demo

Unprecedented cooperation across the binary line is at the root of a new campaign on post-school educational opportunities launched by lecturers' unions, other campus staff and students.

The Association of University Teachers and the National Association of Teachers in Further and Higher Education have joined with other campus unions and the National Union of Students to promote a nationwide petition seeking increased investment in all sectors of further and higher education.

It will be presented to the Prime Minister on March 9, following a mass demonstration in London and a lobby of Parliament which organizers hope will have at least the impact of the action taken by university lecturers in the autumn of 1981.

## Police investigate college accounts

West Yorkshire Police are investigating the accounts of Thomas Dunby Further Education College in Leeds, following reports of discrepancies understood to amount to several thousand pounds.

Leeds City Council's education department, who asked the police to investigate the disappearance of the college's acting registrar Mr John McDonald, who has not been seen since about the time police and council auditors' inquiries began. Mr McDonald was appointed to the college as assistant registrar about a year ago, and has been acting registrar for several months.

## Inspector called in

Miss Sheila Browne, Senior Chief Inspector of Schools, is to become principal of Newnham College, Cambridge when she leaves the Department of Education and Science in August. Miss Browne will succeed Mrs J. E. Floud who is retiring.

## City aims at City

The City University in London has launched an evening MBA course claimed to be the first of its kind to be offered outside working hours. It is aimed at managers and professional people. The two-year course, which begins in February, consists of a core of eight management disciplines basic to all business followed by a second stage of special areas.

## Noise rebate

Students disturbed by noisy repair work on their residential tower block have won rent rebates of £100 from Birmingham University.

The university had hoped that work on the 17-storey tower block would be completed by the end of the summer vacation but a spokesman explained that more extensive repairs had been necessary. Although workmen were still on site, the noise nuisance had now ceased, he said.

## Deputy named

Dr Malcolm Godfrey has been named as the new second secretary of the Medical Research Council, where he will serve as deputy to the secretary, Sir James Gowans. Dr Godfrey is currently dean of the Royal Postgraduate Medical School, London, and chairs the University of London's Joint Medical Advisory Committee on restructuring within the university.

## Rents 'too high'

Glasgow students are preparing to go on a rent strike, withholding a term's hall fees of £322 following a referendum which 79 per cent said rents were too high.

The students say Glasgow's accommodation fees are the highest of any Scottish university, and that students on a full grant are left with just over £15 a week for all their expenses.

# Grants cut for 12 colleges

by Patricia Santinelli

Twelve voluntary colleges mentioned in the auditor general's report as having received grants in excess of expenditure, have already had their allocations reduced, according to Department of Education and Science sources.

The report by Mr Gordon Downey, comptroller and auditor general published last week questioned whether the DES had adequate control over the funding of the 26 voluntary colleges.

Mr Downey says that an investigation by his staff into the cash balances held by some grant aided institutions on March 31 1981 revealed that at least three voluntary colleges had excessive balances.

In spite of assurances from the DES that control would be tightened,

a further review on March 31 last year showed that 12 colleges now held balances in excess of 4 per cent of their net annual estimate. In eight cases this exceeded 11 per cent.

Sir James Hamilton, permanent secretary at the department, is to appear before the Committee of Public Accounts next month when it intends to question him on the matter.

It is likely that Sir James will tell MPs the report is based on a misunderstanding created by changes introduced in 1981 when funding ceased to be based on the academic year but moved instead to a financial year basis.

Many colleges are thought not to have understood that the flexibility which existed under the academic year funding, whereby unspent grants could be carried over into the

next year, would no longer apply in a financial year system.

Sir James is also bound to state the report's veiled claims that non-voluntary colleges received their monthly application for government grant from £2.5m to £1.8m only after they had been warned by the DES that unspent allocations of £5.2m could not be claimed after March 11, 1982.

In fact the DES has already made clear that it believes its letter to the colleges and the subsequent claims that it granted were purely confidential.

The department has said the letter was intended to check that the grants would indeed be underdrawn, as well as to dispel uncertainty about the availability after that date of grant allocated for the period up to March 31 1982.

# Sports teams ask for funds

by Felicity Jones

British competitors who are in the process of being selected for the world student games may not be able to compete in Canada this summer unless more funds can be found.

In the past, the organizing body, the British Students Sports Federation, has had enough money, largely thanks to an anonymous donor, to cover the cost of sending all its team with only a token contribution from competitors.

But this year the distance to Edmonton and the poor currency exchange rate mean an additional £300 has to be found for each student on top of £50 personal contribution. The organizers expect about 80 students to be selected to take part in 11 sports, so team managers would need to find £24,000.

Mr Mike Gee, secretary of BSSF, said they had so far failed to find an overall sponsor and they were very short of money, but would wait until the end of February before taking a decision. Swimming and athletics will definitely be represented although the size of the teams will depend on how much extra money can be found by the squad managers and students.

"Rather than debate students who have not got the money themselves, we have decided that if the best fencer, say, has not got the money then nobody in that team will go," said Mr Gee. "There will definitely be some people who won't be able to go to Canada but we will send at least a small team since this is the first time the games have been held in the Commonwealth."

The athletics team manager, Dr Nick Whitehead of Leeds Polytechnic, said he had approached dozens of possible sponsors with no success. "The sad thing is that it looks as if we will only be able to take 10 athletes when there will be at least 20 of sufficiently high standard who would go," he remarked.

Brighton Polytechnic has launched an appeal for £1,000 to send 10 students. Three students, cyclists Craig Wilson and Robert Kenyon and captain of the volleyball team, Allison Bakery, have already been chosen to take part. The swimming selector Iain Scobell said it would be hard to tell people they could not go even though they had been chosen.

"It is the same old story of sportsmen and women, selected to represent their country at the second biggest event after the Olympics, being expected to pay their own way," he said.

The BSSF noted that the possibility that students who could afford to pay more would get preference over the best qualified.



## Lectrice ruling angers union

An official for the Association of University Teachers in Scotland has lit out at a tribunal decision rejecting a claim of redundancy and unfair dismissal from a French lecturer at St Andrews University.

Mr David Bleiman, above, regional official for Scotland and the north, Francois Blackbourn at the hearing, said: "It is surprising that an industrial tribunal can find that after seven and a half years of continuous employment a lecturer is still in a temporary post."

The tribunal found that Dr Blackbourn's series of fixed term appointments was not an attempt by St Andrews to disguise a permanent post, since it accepted it was normal practice for language assistants to be employed for only one or two years. However, said Mr Bleiman, the tribunal's decision did not set a precedent. He stressed that both the tribunal and St Andrews University had recognized that Dr Blackbourn was a valuable employee whose competence was never brought into question.

# Critical extracts 'used out of context'

by Paul Flather

The American author of extracts quoted in last year's Rothschild report to illustrate shortcomings associated with sociology has said they have no bearing on the current state of British sociology.

Professor Robert Farnis, former professor of sociology at Washington University, Seattle, says that the quotations "could not have reflected the condition of contemporary British sociology".

This will satisfy sociologists who have been very concerned at criticisms of their discipline and their standard of work implied by Lord Rothschild in his official inquiry into the Social Science Research Council.

Lord Rothschild never made his criticisms explicit, but he recommended that no new sociology departments or sub-departments should be established. A clue came in the epilogue, when he asked whether the late 1960s expansion of universities had made it impossible to find enough high calibre sociologists to fill them.

The extracts in the report were quoted from an article in the Encyclopedia Britannica by Professor Farnis. They contained a list of serious shortcomings linked by critics to contemporary sociology.

They included an appetite for neologisms and jargon; a disposition for pseudo-quantification; and excessive concern with imitation of the methods of natural sciences, overdependence on data from interviews, questionnaires, and informal observations. "Bias in more than one direction is sometimes presumed to be a chronic affliction of sociology," the article added.

Professor Farnis now says the article was written in the 1960s and appeared in print in 1974. It generalized mainly about the state of sociology in the years after 1945 and dealt mainly with sociology in the United States.

He also says that he might have omitted some of the quoted section as difficulties in research are common to all sciences. For example, the astrophysics is also full of difficulties, bias and controversy but these are all outweighed by magnificent achievement, Professor Farnis says.

His comments are contained in a letter sent to Professor Robert Moore, professor of sociology at Aberdeen University and chairman of the British Sociological Association.

Professor Moore said: "Lord Rothschild's report did a great service in supporting the social sciences, but it does seem that these extracts were not very apposite when applied to current British sociology."

As Professor Farnis says, the problems linked to sociology are common to all types of scientific inquiry. The critics of sociology should be aware of this," he warned.

Professor H. Halsey, professor of social administration at Oxford University, said at the time that the Rothschild report had contained "gratuitous" criticism of sociology. It had not given enough consideration to the value of the subject as a powerful mode of explanation.

Others have been quick to seize on the Rothschild criticisms as evidence of the poor quality of sociological study. Lord Rothschild would not comment. He has always said he was given an enormous brief, not enough time nor resources to study it properly.

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Dr Malcolm Godfrey has been named as the new second secretary of the Medical Research Council, where he will serve as deputy to the secretary, Sir James Gowans. Dr Godfrey is currently dean of the Royal Postgraduate Medical School, London, and chairs the University of London's Joint Medical Advisory Committee on restructuring within the university.

## Rents 'too high'

Glasgow students are preparing to go on a rent strike, withholding a term's hall fees of £322 following a referendum which 79 per cent said rents were too high.

The students say Glasgow's accommodation fees are the highest of any Scottish university, and that students on a full grant are left with just over £15 a week for all their expenses.

## Maternity decision sets precedent

Scottish local authorities could be liable to pay hundreds of thousands of pounds in maternity benefit to further education and school staff following a legal decision given by the National Association of Schoolmasters/Union of Women Teachers (Scotland) took up the case of a school teacher who had the equivalent of maternity benefit deducted from her salary by Tayside Region during her maternity leave.

Every Scottish local authority has elected this sum since 1975, but while women paying the full national insurance stamp receive a maternity allowance, Mrs Anne Neill, who paid the cheaper rate did not.

However, Sheriff Graham Cox ruled at Dundee Sheriff Court that according to teachers' conditions of service, stating that they should be granted three months maternity leave on full salary. Tayside was not entitled to deduct the equivalent of maternity benefit from staff's salaries, whichever stamp was paid.

Tayside argued the deduction was valid because it counted as an illness allowance, but Sheriff Cox said the conditions of service stated that absence because of miscarriage or a still-born child should be dealt with as "normal illness".

## Stamina test for the retired

Physical, mental and spiritual fitness are the three components of a Duke of Edinburgh-style award scheme proposed for retired people by an adult education officer in Northumberland.

Mr Roy Berrill's brief has brought him into contact with youngsters doing the conventional awards and with support groups for the elderly. He has attracted some interest in education journals and among voluntary groups for the elderly - notably Age Concern.

The idea occurred to him some time ago when he noticed that people who retired both early and at normal age were at a loss for ways to occupy themselves. Mainstream adult education classes were not enough because they only concentrated on one skill rather than a range, he decided.

Instead he has proposed five aspects, four of them - hobbies, physical fitness, community service and exploration - directly related to the Duke of Edinburgh scheme. The introduced because he said: "In later life it is not unusual for people to become as concerned with the spiritual as the physical and mental."

# Deadlock over lease poses threat to centre's new home

Plans to provide a new home for the Intermediate Technology Development Group at South Bank Polytechnic are under threat as a result of a last minute deadlock over the lease.

The ITDG is an educational charity mainly concerned with technology and third world development. It launched an appeal two years ago for larger premises than its present ones in Lovant Garden, where it suffers from shortage of space and rising rents.

It elected to spend the £200,000 raised for the new Schumacher centre - named after the late E. F. Schumacher, author of *Small is Beautiful* - on a vacant building offered by the Polytechnic of the South Bank.

The group originally planned to move in this month and plans for alterations to the building, left vacant when South Bank's polymer engineers moved to North London Polytechnic were well advanced. The Inner London Education Authority believed it held the freehold for the site, which is part of a complex set of overlapping titles.

But they found later that Bridgehouse Estates, a property company run by the City of London, owned the plot involved. The company said the alterations to the building would mean a large rent increase which the ITDG could not pay.

The ITDG had planned to house a new advice service for small businesses and exhibition space as well as its existing activities.

However negotiations are still going ahead and Mr Maxwell Smith, the polytechnic's assistant director, said he was optimistic.

## BTEC appoints chief executive

The first meeting of BTEC, the body formed from a merger of the Business and Technician Education Councils, appointed Mr John Sellers, chief officer of BEC, as its chief executive this week.

BTEC's council also appointed Mr David Mitchell currently chief officer of TEC as its director of education, and Mr John Sheffield, chairman of BEC as vice chairman. No policy guidelines are to be decided yet.

# Unions spar over employment rights

by David Jobbins

Claims that the largest college lecturers' union signed away its members' rights in key areas of employment law are likely to rekindle the fierce dispute with its non-TUC rival.

The 3,000 member Association of Polytechnic Teachers made the allegations this week when it published its own guidelines on local negotiations conditions of service.

The APT is barred from the National Joint Council where conditions of service are negotiated by the local authority employers and the 74,000 strong National Association of Teachers in Further and Higher Education.

The APT claims that the national agreement reached in the NJC gives lecturers less than their existing entitlement under employment law. It accuses NTFHE of being responsible.

The areas include:

- Termination of employment - the APT says that employees with more than 12 years' service are entitled to three months' notice, but the national agreement gives only two for staff leaving in the spring and autumn terms.
- Maternity leave - the APT claims that a lecturer may lose her rights under law if she is absent earlier than 11 weeks before confinement, even on medical advice.
- Time off for trade union duties - the APT claims that general rights under employment legislation are not specifically included in the agreement.

The union also claims that the agreement removes a lecturer's right to confidentiality by giving NTFHE access to individual timetables. It challenges the right of the management side of the NJC to make decisions on union recognition.

Each count is likely to be contested fiercely by NTFHE, which will argue that the period of notice is relevant only to staff who choose to leave and who will prefer having a shorter period to enable them to take up a new appointment at the beginning of the next term.

The APT is seeking one year's notice of intended redundancy and time off for trade union activities for its members.

# SSRC staff walk out over plans to cut 30 posts

The dispute at the Social Science Research Council escalated this week when 120 staff walked out. Some staff at the Science and Engineering Research Council said they would black work transferred to them from the SSRC.

Staff this week picketed the SSRC headquarters in central London and urged all callers, including academics arriving for the current round of important subject committee meetings, not to go in.

The strike began officially on Wednesday morning. It followed a meeting of the Finance and General Purposes committee which endorsed plans to cut 30 posts out of 146 over three years from next April.

Mr Jim Terry, divisional officer of the Association of Scientific, Technical, and Managerial Staffs, one of four unions involved, said the staff had paid for recent cuts losing 14 posts last year.

He said the strike would only be called off if the proposals were totally withdrawn and a joint working party established to look in detail at the SSRC budget and a new programme of cuts. The strike will last at least until the SSRC council meets next week.

Mr Michael Posner, the SSRC chairman, said that a skeleton service including postal and telephone services would be maintained by the management. "We are very very sad to be quarrelling with our friends. But it is essential the SSRC puts its house in order. We have had cuts of 30 per cent while I have been chairman and we are having to do harsh things," he said.

The unions are particularly bitter because a disproportionate amount of the savings are being found from staffing. They claim the Government-imposed cuts have not been properly resisted and that a strongly worded union submission has been largely ignored.

Members of the Society of Civil and Public Servants based at the SSRC in Swindon have now decided to black work transferred from the postgraduate awards division of the SSRC in London.

## Leeds loses marine labs

A campaign led by Treasury Cabinet Minister Mr Leon Brittan has failed to stop Leeds University closing its marine laboratories.

Mr Brittan, MP for Cleveland and Whitby, who is a leading monetarist is committed to public spending cuts, said his opposition to the sale was on the grounds of the valuable work done by the laboratories. He was not opposed to university economies.

"The laboratories are a unique facility," he said. "I think the university should have kept them and found its economies elsewhere."

Mr Brittan said the fight would now concentrate on making sure that the premises continue to be used for educational or cultural purposes. The university has said it would prefer it to continue as a research or education centre but if not it will be converted, probably to a restaurant, shops or housing.

The laboratories are estimated at being worth at least £50,000 to a buyer wishing to convert them and at around £100,000 as laboratories. The hostel is worth around £40,000 - £50,000 for conversion to flats or terraced houses and about £70,000 as student accommodation. The work shops and the land they stand on would fetch around £20,000.

Details have been sent to the National Trust and the North Yorkshire County Council and there is some local support for a maritime museum on the laboratory site.

## Backing for economics centre

continued from front page

for £4m over five years before the scheme can get under way. It expects to earn up to £700,000 a year in research grants.

The scheme has won support from the SSRC's economic affairs committee and research board, and goes before the council next week.

The SSRC's stake, conditional on the rest of the funds being raised, is understood to be about £300,000 over five years.

The proposal was originally put together by Professor Richard Portes, an American professor of economics at Birkbeck College, London University.

Professor Portes said British economics had great strengths and excellent people, but often with limited exposure and impact. "The centre will aim to represent British economics to its full capacity at the international level," he said.

Other reasons given for creating the centre is the need for academics to collaborate; the need for research on a large scale; and the need to bring policymakers and researchers together more.

The main research programmes are likely to be: international macroeconomics including exchange rate policies; financial markets and fluctuations; international trade and industrial organization; international comparisons of economic structure and institutions.

# HMI modifies course proposals

by Patricia Santinelli

Her Majesty's Inspectorate has had to modify its ambitions to increase the length of postgraduate teacher training courses to 44 weeks.

In a paper on the content of initial teacher training published this week, the Certificate of Education courses should be increased to 36 weeks, one month more than the current average of 32 weeks.

The inspectorate is believed to be unhappy at the need for compromise which emerged after consultations on an earlier version had been presented to the Advisory Committee for the Supply and Education of Teachers and circulated to other interested bodies.

The HMI's earlier decision to recommend a 44-week PGCE, which would include 18 weeks in schools, reflected their belief that courses are not long enough to train teachers well. The HMI felt it was particularly important to extend the PGCE as a boom in primary teacher training is expected.

The inspectorate has not changed its recommendation for a four-year BED and BA/BSE with concurrent training. It also proposes that PGCE students should spend at least 12 weeks full time in schools, while those on BED courses should spend 15 weeks.

Other recommendations made in the earlier version have survived. They include ensuring that at least two years is given to the content of teaching subjects in BED.

It reiterates that students selected for training directly from full-time

education should be encouraged to take time off before starting a course.

These recommendations are likely to carry more weight if ACSET, which met this week, agrees advice to the Secretary of State for Education on how initial teacher training might be improved.

Earlier drafts put forward by an ACSET sub-committee contained two recommendations which have survived in the final paper. Those were for the Secretary of State to establish criteria for deciding whether to approve initial teacher training courses.

The second recommendation is for the re-establishment of professional committees and delegacies with fresh guidelines and with constitutions approved by the Secretary of State.

# Principal meets split department

by Olga Wojtas

Disagreement over the running of Edinburgh University's physiology department came to a head last week when the university's principal held a meeting of the department's staff.

There has been conflict over the way the department is run for some time and further problems arose at the end of last session when the health and safety executive became concerned about overcrowding in the workshop. The head of department, professor William Watson, decided it should expand into the library area, and the library move to a smaller room.

Many staff complained there had not been enough consultation, and after a majority vote called for Professor Watson to give up his headship. When he refused staff approached the dean of the medical faculty who told them the dispute was internal and should be solved within the department.

The principal, John Burnett, who spoke to all the staff at the meeting and then talked to two readers and two senior lecturers, said there was no formal grievance procedure in train at present. "Some months ago the department got itself into a great tizz and did take formal action," he said. "It was a long time for people to settle down."

Edinburgh's Association of University Teachers is seeking a meeting with Dr Burnett to discuss the matter.



Sir John Burnham, director general of the British Council (left) greets the first student to make use of the council's new reception office at Victoria Station, London. Mr Munibulh Jeetsing, a Mauritian, will spend six months with the Thames Water Authority. More than 7,000 students arrived at Victoria last year.

## Ralf loves and leaves the LSE

Professor Ralf Dahrendorf said this week he would not seek reappointment as director of the London School of Economics when his 10-year term expires in September next year. There has been speculation that he may return to political life in West Germany.

In a letter to Sir Huw Weldon, chairman of the LSE's court of governors, Professor Dahrendorf said: "It is quite conceivable that I will regard my LSE years as the happiest of my life. The directorship of the school has given me more satisfaction and pleasure than any post which I have held. I shall forever love the LSE."

## Germans seek British links

West German academics and civil servants are seeking closer links with British universities, polytechnics and colleges to allow students from the two countries to join integrated courses with full credit towards their degrees.

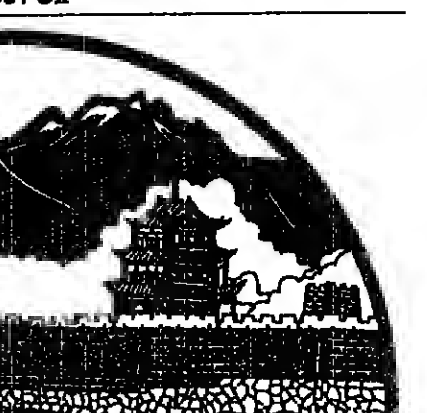
The British German Mixed Commission secured agreement last month on a joint seminar to compare developments at British polytechnics and German Fachhochschulen and explore the possibilities for further collaboration. Although university representatives were involved in the discussions, the exercise will not be extended across the binary line.

German representatives at the meeting also expressed concern about the distribution of visiting lecturers and the absence of in-service training for teachers of English. A further bilateral meeting will consider ways of ensuring that lecturers are sent to the most suitable university or polytechnic, while the Department of Education and Science will try to provide in-service facilities.

The British section, led by Sir John Burnham, director general of the British Council, secured an important guarantee for students on exchange in Germany. In future, they will receive a free health treatment, saving them about £15 a month.

The Mixed Commission is one of many organized by the British Council under the various cultural conventions signed with other countries.

## Travel



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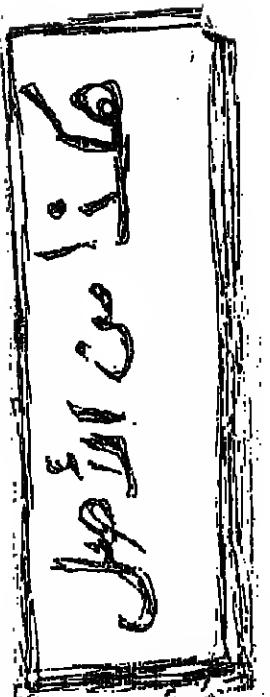
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## Team spirit for student sports

The much-vaunted yet chimerical idea of an all-student British sports organization began to seem less far fetched at Lancaster University last week. The general council of the British Universities Sports Federation voted to accept the main recommendation of a working party report, entitled *A framework for the future*, that a unified sports organization be established for universities in the United Kingdom.

The universities, except for Sussex and St David's Lampeter, are all individual members. There are also corporate members, the Universities Athletic Union, the University of Wales Athletic Union, the Scottish Universities Sports Federation, London University and Oxford and Cambridge. In view of the disparate elements within the organization, all with divergent histories and philosophies it is an achievement to discover this degree of common purpose.

Yet it was clear from the debate at Lancaster that the constituent elements of the new organization will fight to keep sovereignty over important areas of finance and sports policy. The small print of the final treaty will severely qualify the rhetoric in the declaration of intent. A steering group of 15 has until early May to produce proposals for implementing the plan.

Even if the steering group's proposals are acceptable to a special BUSF general meeting to be called in May, students who take part in sport on Wednesday and Saturday afternoons are unlikely to notice any changes. It is hoped to have the central organization, which has yet to be named, in place for the start of next academic year. However, the restructured fixture lists for national championships in four home countries, with London, Oxford and Cambridge now eligible to enter the English competition, may be delayed until 1984/85.

Uncertainty exists too about finance for the new body. The working party's idea of a sliding scale of capitation fees for the whole country of between 20p and 40p, depending on the size of the university, with all funds being paid direct from the periphery into the centre, is likely to be wrangled out of a recognition by the steering group. Special cases and exemption clauses may become less the exception than the rule.

This is all a long way from the once brave new vision of such as Alan Evans, who left the frantic world of student sport last May to become secretary of the Welsh Football Association. During his time as

secretary of UAU, Evans produced a blueprint for a national system of "banding" on the American model, with sports in each region divided not along sectoral lines but according to ability. Crack university shall play ball with top-class polytechnic, and a college shall be matched against a university of similar size.

Many agreed it was a desirable, though unlikely outcome. Perceived differences in status and financial inequalities between the sectors kept everyone tied securely to their own patch.

However, over the last few years, the squeeze on higher education in general has forced the current process of defensive rationalization upon the universities. The Committee of Vice Chancellors and Principals demurred before conditionally accepting the recent increase in the BUSF affiliation fee to 25p per head, and English vice chancellors in particular are against having to pay two large affiliation fees to BUSF and UAU. Also, a change in the method of financing has brought student sport into direct competition with academic departments for dwindling university budgets.

So last year's BUSF general council decided to embark on the working party's road to unity, albeit more as a result of outside pressure than as a deliberate act of will. The Lancaster debate had a touch of schizophrenia about it. From time to time a speaker would strike out for the high ground of British unity, promising sponsorship deals, strong representation in the councils of government, and even television money. Then sectional interests took over again.

Alan Evans watched it all with a sense of mounting anger. "Nobody's thinking about what we could be doing. You have to break eggs sometimes if you want to create something new," he said. But even he shared the Welsh reaction against the idea of paying all their funds into the supra-national centre, only to receive back what was needed to run their own internal competition. In this scenario, Brussels is represented by Woburn Square, present home of both the BUSF and UAU, and like-liest HQ for the new organization. "The Welsh don't want someone telling them what events they can schedule," said Evans.

Welsh pride had been stung before the conference by the cross decision

of the English majority in UAU, perhaps over keen to adopt the working party recommendation to create home country championships with a strong national identity, to exclude the Welsh universities from the final stages of the UAU competition next year. As one Welsh delegate observed: "That's 65 years of history torn up right there." Hugh Stitt of Bradford, a dissenting voice on the English side, pointed out that his university's rugby union club had a substantial proportion of Welsh students anyway, so the "English identity" argument was meaningless.

The Scots too have their worries, lest their affiliation fee become a hidden subsidy to what they view as

an inefficiently run English competitive programme. Until now the SUSF has run a very tight ship indeed, based on a flat-rate 13p capitation fee and a reliance on unpaid honorary officials. Scottish vice chancellors might not agree a new total capitation fee nearly four times that amount, even though some 23p would come back to Scotland for disposal as the national committee saw fit.

By way of contrast, the incorporation of those bastions of tradition, London, Oxford and Cambridge into the organization looks set to go through without too many hiccups. However, the immediate changes will be more cosmetic than real. Many



Major fixtures like the varsity match are unlikely to be disturbed

minor sports at Oxford and Cambridge will certainly welcome the opportunity of taking part in national inter-university competition for the first time. Yet the major sports at Oxford and Cambridge are unlikely to disturb their prestigious fixtures lists with outside clubs nor their pre-eminent varsity fixtures in order to accommodate matches in the English championship.

Some cynics suggest that Oxford and Cambridge will deliberately field weakened teams in the championship for fear of finding their first teams less than a match for the better university sides. It was not a suggestion that amused Peter Clarkson, the Oxford representative on the working party. "That comment deserves total contempt," he said. "It is simply not true that we are uninterested in playing against other students."

Yet for London it will be deliberate policy to field "weakened" teams as the sole university representatives in national championships – the price the University Sports Council have had to pay to get acceptance by their colleges. For four years University College and the London School of Economics have been constituent members of UAU, and a month before the BUSF council meeting the UAU rashly promised to defend their individual right of entry to any future championship. Now the BUSF has voted to take that right away from them, and accept just one team from London University as a whole.

London's policy will be to invite constituent colleges to offer to represent the university in each sport. A hypothetical example would see LSE entering the basketball competition, and UCL the netball. Whatever LSE and UCL may feel about the outcome, the senate is certainly pleased. Paying one set of affiliation fees for 40,000 students at a per capita figure of 20 to 25p represents quite a saving on the old system of paying two sets of much higher rates for individual colleges.

So the arguments will now go on among the steering group, arguments about what to call this hybrid British university sports body – BUAF perhaps, or BUSA, or other less manageable acronyms? Ways will be sort of preserving charitable status, and avoiding payment of VAT. Territories will be fought over and new lines of defence drawn. In August or thereabouts a strange new bird will come slouching towards Woburn Square, but the signs are that it won't be decked out in the plumage that Alan Evans once had in mind.



Sir Hans Kornberg (left) with Venture Research supported scientists Dr Peter Rich and Dr Colin Self

## BP's million pound injection

Jon Turney on a unit that plans to fund research that other grants don't reach

If you were told to spend £1m on promoting innovative scientific research, how would you choose who to support? It sounds like an intellectual parlour game but for Dr Don Braben and his colleagues at BP's Venture Research Unit it is an intensely practical question that the best answers are known. Only 150 years ago, science was largely the province of the gentleman amateur. Since then the way research is funded has changed out of all recognition. Science is now enmeshed in a complex military and industrial system which furnishes support on a scale undreamed of in the Victorian era.

The distribution of this new-found wealth creates difficulties for both donors and recipients. Amateur scientists, presumably, can examine whatever phenomena they wish, and follow their researches anywhere they lead. But today's multi-million pound research budgets have organizations to administer them and the contemporary scientist inevitably has to jump through bureaucratic hoops before laying hands on any money.

This is both good and bad. Governments and corporations get some sort of reassurance that their money is wisely invested, and researchers can work in relative financial security. But research council pigeon-holing and peer review often tends to be conservative.

So short, the big institutions are well suited to promoting what the celebrated historian Thomas Kuhn would classify as "normal science" – the solving of puzzles within an existing paradigm, or theoretical framework.

But what of "revolutionary science" – pathbreaking work outside the accepted "canon" of a particular field? Is it possible the leading funding agencies miss opportunities to back work which might overturn reigning paradigms rather than reinforce them? And if so, is it possible to find ways of filling these gaps?

The BP unit, set up two years ago, came into being because the company wanted a stake in new science and technology outside the areas already covered by its £100m annual group research budget. The objective was to extend BP's support for new concepts... for which a major commercial reward can be imagined.

This led to a search for workers with unconventional ideas because the company agreed the money would not go to projects aimed at any specific commercial or practical goal. According to Don Braben, who heads the unit, "major advances in the last few decades have come from people thinking quite profoundly and often unconventionally about some natural phenomenon and doing their best to understand what is going on."

That "understanding" may lead them, like Bardeen and Shockley whose work led to the development of the transistor or Fleming whose research led to penicillin.

So far, all the successful applicants work in universities, and Braben sees the venture research programme fostering a new relationship between BP and the academic community. Once the board criteria for acceptable ideas were set, the unit's task became selection of the right people. There is no shortage of applicants and only 17 proposals have been accepted so far. The lucky few receive whatever support they need for three years, including equipment, technical support staff and money for others to cover their teaching commitments.

The eventual selection is a gamble, and although the total expenditure is only around 1 per cent of the company's research budget, the unit's money will not continue indefinitely unless there are tangible benefits. The job of the research assessors is to make the gamble more like racing than roulette, using whatever guides to form and information about researchers' training and pedigree they can compile. The only additional difficulty is that they still lack a clear definition of what counts as a "win".

Ultimate responsibility for approving the grants recommended by the VRU rests with a Venture Research Advisory Council, chaired by Sir James Menter, principal of Queen Mary College, and a non-executive director of BP. Other members include Sir Rex Richards, warden of Merton College, Oxford and Sir Hans Kornberg, professor of biochemistry at Cambridge.

Sir Hans said the council assumes "there are really big questions which open disciplines, which the research councils can't fund because they are multidisciplinary – we're reaching the parts that other research grants don't reach".

Certainly, most of the money handed out so far has gone to multidisciplinary teams. For example, one proposal, recently agreed in principle, will bring together a group of biochemists studying photosynthesis and researchers in a neighbouring department working in control engineering. The chemical systems which are thought to drive synthesis of essential molecules are among the most complex and tightly organized in plant cells, so ideas from control engineering might help understand how they are regulated.

Conversely, insights into photosynthesis may react back on the way the engineering researchers think about control of complex processes.

Researchers chosen by the unit are already highly regarded so they often command substantial support from other sources. Thus the VRU will sometimes pick up "spin-offs" from existing research programmes. One example is Professor Colin Caro's work at Imperial College, London, where work on natural blood flow is backed by the Medical Research Council. They turned to BP for money to look more closely at some unexpected properties of components of blood vessel walls, which call for a

combination of medical, physical and biochemical expertise. As usual, the new studies are not supported with any clear end in view, although BP can imagine how they might lead to a better understanding of ultrafiltration – which would have industrial applications.

Take the group based at the Agricultural Research Council's unit for nitrogen fixation at Sussex University. Their ARC funding is tied to research directly on that subject but VRU money is now supporting two post-doctoral fellows working in the university under supervision from the nitrogen fixation unit, and developing their work in other directions.

Dr Jeffrey Leigh, from the ARC unit, explained that it might be possible to develop complexes between metal atoms and organic molecules which would bind molecules other than nitrogen in the same way as the natural system for incorporating atmospheric nitrogen into plant molecules.

A third group which covers several disciplines is based at Trinity College, Dublin, under Professor Dan Bradley, and is looking at the effects of very short pulses of intense laser light on different materials, from conventional semiconductors to the genetic material, DNA.

There are of course projects outside the life sciences, and the other grants approved so far include awards to groups studying the effects of electrically active impurities on the strength of ceramics, the properties of metals heated during welding, and researchers – trying to find materials for light controlled switches which could be used in ultra-fast computers.

Another strong interest of the unit is in promoting work with possible applications to complex engineering systems, whose control and analysis is still largely based on trial and error.

The common feature of all these projects is an orientation toward very general objectives, and this is the main reason their authors have turned to the VRU for support. The researchers are freed from the constraints of research council funding in at least two ways: there is no requirement to specify the precise aims of the work, and the money is awarded for longer than the two year limit of most research council grants.

Don Braben is still looking for more ideas which merit such support, and while it is hard to convince the unit to back a particular project it is easy to apply – a note, or even a phone call is all they ask to alert them to a new idea.

Braben estimates that the unit will support 30 or 40 projects: at full stretch, but it is hard to assess the real probability of a breakthrough which is both commercially and scientifically fruitful.

Sir Hans Kornberg believes the VRU is simply a pump-prime for creation, and that, one day, this approach could be incorporated in the whole of BP's research programme and the research council system, as well.

## The mighty, the macabre and the more mundane

Sandra Hempel takes a look at the 1952 Cabinet papers

A seating plan for the good and the great at the coronation of Queen Elizabeth II and the embarrassing newspaper publication of a photograph of a British soldier holding the severed head of a Malayan handi were among the problems with which Churchill's 1952 Cabinet had to grapple. It can now be revealed.

But the government, which included R. A. Butler as Chancellor of the Exchequer and Harold Macmillan as housing minister, also spent time on more mundane matters. According to the newly-released records of the year there was some discussion about providing technological education to serve the future needs of industry.

In June that year a government statement to Parliament stressed the view that improving facilities for technological education could best be done by building up at least one institution of university rank devoted predominantly to the teaching and study of technology. The University Grants Committee, which then came under the Treasury, was asked how this should be done.

The UGC came down strongly in favour of developing a single site at Imperial College, London, with "no more than normal" development elsewhere. The committee recommended that Imperial College should grow to a student population of 3,000 during 1962-67 with possible expansion to 4,000 after 1967. Estimates made in 1950 for such expansion had shown a capital expenditure of £6m on building spread over 15 years and a trebling of the annual grant to the college from £600,000 in 1949-50 to about £1,800,000.

But the then Lord President of the Council, Lord Woolton, disagreed with the UGC. He was in favour of expanding Imperial College but wanted to encourage technological education outside London as well and suggested the then Manchester Municipal College of Technology, later UMIST, and the Royal Technical College, Glasgow, later Strathclyde University, as possible candidates for such development.

In a memorandum to his Cabinet colleagues in October Lord Woolton says: "I feel sure we must do something to develop our new policy at places other than London. An expansion of Imperial College will not pass without a memo of his own in almost unnoticed in London. It will not enlist the support which local industrialists in manufacturing areas have already offered."

"I feel sure that if we only expand Imperial College we shall be strongly criticized for our failure to develop any of these new technological centres in the places where they are vitally needed."

Woolton argues that technically-minded young people in Scotland, the north, the midlands and Wales must be mobilized. These areas already had an inherent inclination for craftsmanship and would provide the proposed new universities with a source of students with aptitude for the practical application of scientific knowledge. He refers to conversions with industrialists who claimed that university-trained engineers were often too academic while the higher technological courses did not seem to be attracting "the highest type". Those trained below university level played a useful part in industry but "they are in the main too specialized and not sufficiently high-powered". He adds darkly: "Some other countries seem to manage these matters better."

Calling for the development of at least two higher technological institutions outside London, Woolton says he has an open mind but mentions Glasgow and Manchester. In fact his case for suggesting Manchester might not have been entirely unbiased.

Educated at a school just down the road from the college, he was chancellor of the University of Manchester when he wrote his memo.

One of the reasons he gives for choosing the two institutions was that extensions were in progress on both sites at the time and so expansion would be faster than at Imperial.

In 1952, the Glasgow College was the largest university-rank technological institution in the country with around 1,000 students. The expansion already under way was to bring this total up to 1,300-1,400. The UGC had warned of difficulties between the college and Glasgow University about their relative status and there had been considerable tension between the two institutions, which had been linked since 1919 with the scholars of the classical academic disciplines at one place suspicious of the newcomers from the modern world of technology at the other.

The Manchester college had 7,000 students in the early 1950s but only 10 per cent of these were studying for degrees. The majority were part-time students, many of them attending evening classes for which the college was famous. The UGC said

without Manchester: "the direction of the college has not of recent years been as lively as that of the Royal Technical College, Glasgow". Lord Woolton adds that it was undoubtedly suffering from uncertainty as to its future status and was without a principal. Sir James Myers had resigned as principal in 1951 and Dr Bowden, later minister of technology under Harold Wilson, was not appointed until 1953.

"The college has four chairs at present but they are hoping to have five more within the next five years and a further five more after that," Woolton says.

Manchester finally received its charter in 1956 after expressing great disappointment in 1953 that Imperial College had, after all, been the first to benefit from expansion and upgrading. Its UGC grant went up from £74,000 in 1952-53 to over £200,000 four years later which still local criticism that ratepayers' money was being used to fund work of national importance. In 1954 the City of Manchester agreed to the setting up of an independent governing body which was the precursor to the granting of the charter.

Strathclyde had a longer wait despite the efforts of James Stuart, secretary of state for Scotland who backed Lord Woolton's efforts in Cabinet with a memo of his own in October 1952.

"We cannot content ourselves merely with a decision to build up Imperial College no matter how spectacular that progress is to be. Our credit will suffer outside London if we say merely that Imperial is to be built up and nothing else of any significance."

In making the case for Strathclyde, Stuart says that the government need not consult itself to further physical expansion. The college had as much as it could cope with in the £800,000 extension that was underway at the time, according to the minister, who was needed was a general assurance that the Imperial project was not the only step the government was prepared to take.

Stuart saw an immediate problem in the relationship between university and college. The university proposed changes in the existing scheme of affiliation which the college regarded as unacceptable, he said. The college have suggested that they should be given the same degree-granting powers. I should like to see what can be done to find a satisfactory solution but this will take time.

It took until 1961 when the University of Strathclyde received its royal charter after a decade of plotting research and development, which one professor who joined the staff in 1950 has described as "the most exciting and enjoyable of my career".

## Helping to fill the coffers in the local community

Felicity Jones argues that higher education gives back as much as it takes from the community

All the criticism about the high cost of colleges, polytechnics and universities sometimes overlooks the fact that they can contribute so much in turn to the local economy and community.

The degree of benefit to the community is not something which is currently measured to the satisfaction of all parties. It is difficult, anyway, to evaluate educational assets in financial terms. And it is no coincidence that a rash of reports and studies, which leap to the defence of colleges as contributors to the local economy, suddenly appear at a time when colleges are under threat of cuts of budgetary reductions.

Nevertheless, such studies do show that colleges are not just sponges soaking up resources but that some of them make a considerable impact on the local economy, a fact which should not be ignored when institutional closures are being considered.

Bristol Polytechnic, for example, claims to contribute over £25m to the economy of Avon County and to support 3,000 jobs at a cost of just over £1m to the ratepayer, according to a report by Mr Reg Ruel who led a team of economists from the polytechnic's economics and social science department in a statistical analysis.

Of course the conclusions are subjective since Avon's gain is another county's loss but the team calculated that, though the bulk of the polytechnic's income, almost £20m, comes from outside, most of it is spent within the county. The money comes from the advanced further education pool to which all local education authorities contribute – and from which some benefit more than others.

Mr Ruel's calculations also take into account the fact that the £4.6m contributed to the budget in student fees last year, 65 per cent come from other local authorities. The polytechnic's income from other sources, such as earnings from conference facilities, added another £1.4m.

Most of that combined income was spent in the local area and students boosted it with book buys and money spent on accommodation, food and clothing. A further £3m from the "multiplier effect" where expenditure boosts income and leads to more spending.

It could be argued that there are other, hidden, benefits to the community which unfortunately the report did not attempt to measure, such as the impact on local employment of capital building projects, the jobs paid out of the pool and the short-term block release courses.

Another two reviews, also carried out internally, showed that the University of East Anglia's 4,000 students contribute £8m to the local

economy and in Leeds the university and polytechnic together account for over 6,000 academic, technical, clerical and auxiliary jobs.

A further recently published report argues that the cost of running two further education colleges in South Tyneside – South Shields Marine and Technical College and the Hebburn Technical College – was £2m less than the money spent in the local area by staff and students of the colleges.

The report was commissioned by the northern region of the National Association of Teachers in Further and Higher Education with a view to evaluate the local economic contribution of further education establishments in a typical local authority area to see what conclusions might be drawn of wider national significance. It was carried out by means of sample surveys of staff spending, habits and student accommodation costs by the North East Trade Union Studies Information Unit based in Newcastle.

A questionnaire survey of a large sample of full-time staff revealed that expenditure on regular items, such as rates and food, and irregular items, such as cars and consumer durables, amounted to £1,164,000 spent within South Tyneside.

In total, the report says that spending by college staff and students (excluding part-time students, but to the local economy as residents anyway) amounted to £3.3m while the running costs of the two colleges was £6m. In this calculation

unlike Bristol, the income to the polytechnic is not included in any estimate of income to the locality. Eighteen hundred jobs were also said to have been generated with an additional 1,300 after taking into account the "multiplier effect" representing 3.8 per cent of the total number of jobs in the area.

In addition, the report stresses the contribution made by the colleges to manufacturing and service industries through professional and vocational training and refresher courses. South Shields Marine and Technical College, for example, trains about a quarter of the marina engineers, deck and radio officers for the British shipping industry.

In an area of high unemployment, the colleges provide a range of courses backed by the Manpower Services Commission, such as basic and advanced electronics courses which are attended by redundant steel workers from the recently closed Consett steel works.

These kind of contributions to the community are largely immeasurable but testify the way that colleges are, and large, inextricably linked to the success of the local economy.

More interesting that the special raises, fundamental questions about the need for effective and coordinated planning in the increasingly higher education which belies the notion that sudden reversal of educational policy and arbitrary cuts are still possible.

But if this thesis is to be accepted

Special Life







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that acid rain falls in the most remote parts of the earth: in Amsterdam Island, for instance, in the south of the Indian Ocean.

So this is now becoming much more than a European problem. Canada - like Scandinavia - suffers from being an importer of acid rain from the United States. Some 70 per cent of deposition of sulphur in Canada comes from elsewhere. Canada's own emissions are about the same as Britain's, nearly five million tonnes a year; and the emissions from the United States are about 27 million tonnes. It may be that the complaints from Scandinavia cannot be satisfied by European cooperation alone - even if that cooperation were to be forthcoming. We just do not know.

It is in these circumstances that scientists' style of thinking and politicians' style go different ways. Scientists can never compromise or bargain over facts: all they can do is suspend judgment until more facts are known. Politicians, squeezed between Treasury officials demanding cost-benefit arguments to justify expenditure on pollution control and the environmental lobby demanding immediate action to deal with what Canadians and Swedes call "the greatest natural catastrophe... the worst environmental threat ever to hit us", cannot wait for more facts. They resort to action based on political hunch rather than scientific advice.

This Canadian government has ordered a 50 per cent reduction in sulphur dioxide emissions from the electrical power industry in Ontario by 1990. This will cost the public some \$500m to achieve, with an annual cost of nearly \$100m a year thereafter. To what end? It is estimated that it will reduce acid rain over Ontario by about three per cent.

If the scientific basis for policy over sulphur emissions is insecure, the basis for policy over carbon dioxide is even less certain. It is certain that carbon dioxide in the air has been accumulating ever since scientific monitoring began. It is certain that a layer of carbon dioxide acts like the glass roof of a greenhouse, trapping heat. It is certain that so long as we burn fossil fuels carbon dioxide will go on accumulating. If there were no other complexities it could be deduced that the temperature of the earth will rise; a point will be reached when the ice caps at the poles melt; the seas will flood all low-lying land; there will be massive changes in climate; the granaries of the world may become deserts.

But there are many other complexities. Much of the carbon dioxide released goes into the oceans, under conditions not fully understood. A global heating of the earth might change the course of air currents and the density of clouds, which in turn might counterbalance the so called "greenhouse effect" (as though a stream of water were to run down the glass of the greenhouse). Is there any sign of this global temperature rise? For a time we thought there was: temperatures did rise a little in the first 40 years of this century; but since then they have fallen a little, despite the continuing accumulation of carbon dioxide.

It is not yet possible to separate the trend (if there is a trend) from the long-term fluctuations in climate which have gone on for millennia. But the possibility of a world turned inside out, so to speak, by massive shifts of climate is not a fantasy. Between now and the year 2000 (when it has been predicted that the possible trend should be measurable) scientists will be keeping a very careful watch over world temperatures.

And if, by the year 2000, it seems probable that the earth's temperature will rise and the floods will come, what then? The only way to reduce emissions of carbon dioxide (at present known) is not to burn coal and oil. The time may come when the proliferation of nuclear power, despite the hazards of radioactivity, is regarded as the safer option.

It was the 1972 conference in Stockholm that put these two gases on the political agenda: now that the public conscience is alerted, there they will stay, along with other contaminants in the environment, while policies are worked out to keep them (if possible) at a "socially acceptable level", that is until politicians have decided what is "clean enough" and

have legislated to achieve the acceptable level. We see this process going on at present over what are to be acceptable levels of lead in air.

Lead is a nasty and insidious poison, but since Roman times it has had many valuable industrial uses. The level at which lead in air produces clinical symptoms is generally agreed among scientists, and all industrial countries have regulations to prevent lead rising to these levels. But intensive research over the last 10 years has shown that concentrations below this danger level do influence the biochemistry of the blood. There is no evidence that this particular influence harms health; indeed it occurs at the lead levels found in the blood of people in such remote communities as Australian aborigines and Kalahari bushmen.

But there is presumptive evidence that children exposed to levels of lead below the generally acknowledged safety level suffer from certain kinds of mental retardation. I said "presumptive", for the evidence is confused by extraneous factors.

**The pressure of public opinion is now forcing politicians to decide what is safe enough and therefore clean enough to be acceptable**

Children who live in areas where lead levels are above average are likely to be near (for example) a factory that reconditions car batteries, or a complex interchange of motorways (like Spaghetti Junction near Birmingham). These are not areas occupied by families which can afford a well-balanced diet, good schooling, or fresh lead-free paint in the living room. So we may (the world has to be in italics) be dealing with children disadvantaged not just by other factors.

In science, the step from correlation to causation is a dangerous one to take. There is, for example, a high correlation between the number of churches and the number of pubs in the postal districts of London, but this does not mean that the churches cause the pubs! So most scientists are less than enthusiastic about the present emotive campaign to get lead out of petrol. This is not because they think lead in petrol is harmless - isn't - but because they doubt whether this is the most beneficial way to spend money on the abatement of lead in the environment.

A more urgent need is to get it out of drinking water. In three million households in Britain the first draw of water from the lead pipes in the morning contains more than the World Health Organization level of permissible lead. This is an undisputed fact.

But consider the problem as politicians see it. They cannot preoccupy themselves with subtle differences between correlation and causation; they are more concerned with the

classical difference in philosophy between "is" and "ought". What they ought to do in a pluralistic democracy is commonly what they regard as acceptable to the public (especially their own constituents).

Scientists can, and indeed have, described accurately how clean air is, in respect of its lead level. They are still in some doubt about how safe this level of cleanliness is. The pressure of public opinion is now forcing politicians to decide what is safe enough and therefore clean enough to be acceptable. That is their job, and it is important to distinguish it from the jobs of scientists and economists: it has a moral dimension on which they can give no advice.

The interesting point is that politicians get no guidance, other than guesses as to what would be politically expedient, on how to derive a decision about how clean air or water ought to be from scientists' advice about how clean and how safe for health air and water are.

Scientists are prepared to make guarded statements (scientists are adept at hedging their bets) to the effect, for instance, that an average ambient concentration of sulphur dioxide not exceeding 80 micrograms per cubic metre is not likely to be a hazard to human health. This does not mean that no one at all will suffer from this concentration, but that only a very few exceptional people will. They are prepared to add, if pressed, that an average concentration of 100 micrograms is not likely to be a hazard for pine trees and that lichens are more sensitive and are at risk at concentrations as low as 50 micrograms; all accompanied by observations about the increased susceptibility of living things to sulphur dioxide if ozone or oxides of nitrogen are present. The very use of the formula "micrograms per cubic metre" exposes the weakness of scientific advice to politicians. It is the language of reductionism: looking at one facet of reality in isolation.

Politicians have to use the language of holism when they make their decision. Do they want to protect only the great majority of people? Or all people? Or pine trees too? Or even lichens? In making this decision they have no advisory philosopher to complement their advisory scientists and economists. Indeed there is no agreed environmental ethic on which the political decision could be based.

Ten years after the Stockholm conference, we have intellectualized environmental politics a good deal. This, as a recent Earthscan paperback, *Stockholm Plus Ten*, puts it, has caused "profound changes in attitudes to the environment over the last decade". The gap between the scientific assessment of an environmental hazard and the public perception of the hazard has been narrowed. But we still lack the framework of an environmental ethic to act as a foundation for that elusive word "enough".

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## Failing to please unemployed youth

**I. K. Wymer calls for a positive youth policy that would provide mixed further education and training for all**

School-leaver unemployment has been rising for over a decade with insignificant response from the education service. While the majority of schools have continued to concentrate resources on A levels, further education colleges have rarely ventured beyond conventional vocational courses. A few colleges have taken the initiative in meeting specific, easily identifiable needs - such as English language for ethnic minorities. But the general failure to make suitable provision for the unqualified has left the main responsibility for unemployed youth with the Manpower Services Commission. Why has the education system failed?

Since the 1944 Education Act, local education authorities have been required to meet demand for education from 16-18-year-olds. What does this mean in practice? If "demand" is interpreted as "what people ask for" the intention of the Act has clearly been frustrated. Every year hundreds of students ask at colleges and to some extent in sixth forms for subjects not offered, or which are withdrawn because numbers are too small. Whether or not individuals can take a course at their local college depends on a dozen or so of their neighbours wanting the same. If not, they may, if persistent, find a suitable course elsewhere, but unless the level is degree equivalent he is unlikely to get much help in his quest.

Although colleges publish prospectuses, and regional advisory committees compile lists of courses in further education, these are of little value to applicants not wanting one of the well-established options. Local authorities publicize information on post-16 opportunities, but a comprehensive student guide to full-time and part-time studies in further education and schools is a rarity. Some schools offer only A levels and repeat O levels, while colleges assess demand with varying degrees of haphazardness. Even colleges with a system for assessing industrial and professional requirements are vague on community needs. How many ask people what they want and then systematically assess the answers? Only a minority have effective methods for anticipating demand and for forward planning.

Student attitudes to studying are strongly influenced by school experience. Leavers with five or more GCE O levels or good CSE grades are encouraged to stay at school for A levels unless they have career intentions strongly indicating another path. Advice given to more modest achievers varies from school to school and sometimes from one careers officer to another. There are examples of students being advised to take A levels in school when, for example, a part time Ordinary National Certificate in further education is more appropriate.

Modest achievers, late developers, are often encouraged to seek work before they are ready. The assumption persists that 16-year-olds other than those with honours degree potential, should start work, even when there are no jobs for the unqualified.

Home background is equally significant. Parents with experience of further or higher education are more likely to encourage staying on. This influence is obviously greater in middle-class than working-class families. Willingness of teenagers to remain dependent is also relevant: reluctance to impose a burden on parents causes some students to opt for a Manpower Services scheme with a training allowance.

In the absence of encouragement from school or home, teenage attitudes assume greater importance. There are always vacancies on courses of some kind there is a sense in which there are opportunities available. But unusually strong motivation is necessary to overcome teacher

discouragement and family apathy or opposition. As Roy Hattersley said: "The determined late developer will always find his (her) way through. But for every Samuel Smiles there are 100 slightly less intelligent, slightly less motivated men and women who want and need to extend their education but find it impossible within the existing system."

The uneven pattern of encouragement from home and school means that any judgment as to whether young people get what they need is arbitrary. Indeed, many of the arguments used to justify the raising of the compulsory leaving age to 16 apply to the 16-18s. Fifty per cent, the approximate proportion who stay on full-time beyond the compulsory stage, does not reflect real need or genuine demand. There are wide variations from area to area: more stay on in the South than the North, nil more in Wales than in England.

Excluded teenagers (and the fact that they exclude themselves does not affect the argument) remain unemployed for long periods because they lack training and education. Youth opportunities schemes protect some from the labour market for a period but, with few exceptions, do not provide the training necessary for skilled jobs, which are the only kind available.

In reality there has been little attempt to assess the extent to which the needs and requirements of the over 16s are met in schools or colleges. Parent-teacher associations articulate the demands of the professional classes; in working-class areas there has long been an enormous unarticulated "demand", which local authorities, labouring within cash limits, have feared to recognize.

In view of the inarticulate response of the education system to the needs of the unqualified, it is not surprising that the Government has set up an alternative agency, the Manpower Services Commission. The commission is responsible for implementing the New Training Initiative and it is intended that the main responsibility for training will rest with industry. Colleges will be in the position of contributing by providing day or block release education, without any control over the NIT projects they service.

This will mean, in effect, two systems of further education: one for those considered worthy of education, the other for the unqualified who are regarded as deserving no more than basic skills training. The fact that there are, in general, no training grants for education means that it is reserved for the better off. Students over 16 on courses in education, in schools and colleges, will continue to be largely middle class, whereas the new training schemes will enter largely for the working classes.

Existing arrangements ensure that young people are divided into first class citizens, who are able to continue to higher education and join the privileged elite, and second class citizens given basic training. Without fundamental changes in economic policy, the vast majority of the latter are likely to remain unemployed. In reality, the use of the Manpower Services Commission rather than the education service to provide projects for the unemployed is a means of preventing genuine further education for all.

The urgent need is for radical reform of the education service to provide further education for all as part of a positive policy for youth. This obviously implies a new concept of education and removal of the meaningless distinction between education and training. Without major reform to coordinate what is available there is no possibility of equal opportunity for all.

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## BOOKS

### 'Don't leave this on your table . . .'

by Peter Clarke

**H. H. Asquith: Letters to Venetia Stanley**  
selected and edited by Michael and Eleanor Brock  
Oxford University Press, £19.50  
ISBN 0 19 212200 2

Friday September 4, 1914 was a busy day for the Prime Minister, H. H. Asquith. Britain had been at war with Germany for a month, and the British Expeditionary Force in France was regrouping after the retreat from Mons. When the Prime Minister made his speech at the Mansion House that morning, the atmosphere was unusually tense. An official luncheon followed immediately, and no sooner was he back at Downing Street than he had to preside over a meeting of the cabinet at 3pm. Knowing that he was bound to leave at 5pm for Hackwood House in Hampshire, to dine with the Queen of the Belgians, he had virtually no time for even the most vital correspondence. Hence he "had to make the most of a few little interstices" during the meeting itself in order to finish one letter. "I am writing this at the Cabinet & have to be excused," he explained in it to his girlfriend, Venetia Stanley.

Venetia was thus not disappointed of her daily letter. "Have I ever missed?" Asquith crowed the next day. "I confess that I have rarely written under greater difficulties. But writing had by then become an act of faith by which this outwardly impressive man of 62 set great store. At the end of July he mentioned 'calculating in bed last night, roughly speaking, since the first week in December I must have written you not less than 170 letters'. The schedule of more than 500 surviving letters in fact shows 132 in these eight months, with another 151 to follow before the end of 1914, an average of more than one a day. In January 1915 this rose to 45, and 48 in February. The climax came with 58 in March, dropping back to a mere 35 in April, then roughly one a day in May, until, on the twelfth, there came an abrupt end to the outpouring. "As you know well, this breaks my heart," Asquith wrote curtly in response to the scolding news of Venetia's engagement to Edwin Montagu, a member of his own cabinet.

This was the same H. H. Asquith who had shouldered the work of the War Office, as well as the premiership, from March to August 1914, before making way for Kitchener on the outbreak of war. As he explained to Venetia, "it requires the undivided time & thought of any man to do the job properly, and as you know I hate scamped work." Every prime minister will have his own concept of scamping, in himself or in his subordinates. Now Asquith clearly had to bear a great deal of pressure during this period. He told his wife Margot in April 1915: "These last three years I have lived under a perpetual strain, the like of which has I suppose been experienced by very few men living or dead." Yet his way of coping with it seems, at first sight, curious, even for a notable exponent of unflappability. During the last week of July 1914, amid the mounting international crisis, the Prime Minister gave Venetia an account of how his time was consumed. "As Margot was tired & in bed, I improvised a little dinner here, consisting of the 2 McKennas, Masterton Smith & myself. We played some really amusing Bridge - the end not much money changed hands. My partner won 6 lions, against 5 royals & only lost by one trick."

These letters are an extraordinary revelation, as everyone who troubles to read through them will surely agree. But what they reveal will less readily command assent. Punctiliously edited by Michael and Eleanor Brock, they stand as a unique record of the candid reactions of a complex

and intelligent man during two years at the pinnacle of his power and responsibility. The earliest letters from Asquith to Venetia, a daughter of the Liberal peer Lord Sheffield, date from 1910, but only in 1912 did the correspondence pick up, and it is the virtually daily series from December 1913 to May 1915 which forms the bulk of the volume.

The letters have been known about, in one way or another, for quite a long time. After the First World War, Venetia was induced to show many of them to Lord Beaverbrook - she was said to be his mistress - and he used them for his own distinctly non-Asquithian purposes. Asquith himself drew upon them, re-styled as "diary" or "notes", in compiling his memoirs, as did his daughter Violet in her later writings. The biography of Asquith by Roy Jenkins was also notable for the use it made of them. The net result has been at best a selective presentation of fragments, at worst a garbled and polemical corruption of the text. This substantial scholarly edition puts everything into perspective, both enabling and demanding a reappraisal of Asquith and his relationship with Venetia.

The letters offer some useful aperçus upon Asquith's premiership, and on the whole do credit to his perceptiveness and self-knowledge. On August 1, 1914 he wrote that "it comes to war I feel sure (this is entirely between you and me) that we shall have come split in the Cabinet", preparing himself for the loss of Morley and possibly (the "I don't think it") of the Impeyable. The latter was Asquith's sobriquet for John Simon - about whose pusillanimity he was exactly right. Morley duly resigned; so Asquith's only surprise (not a big one) was the resignation of John Burns. He knew his cabinet well, and knew well too how to handle it, making it all look deceptively easy. He reported that "not for the first or perhaps the last time I was able to devise a form of face-saving words which pleased everybody" over Welsh Disestablishment in August 1914. Looking back, in a lively second person, on his record in March 1915, he claimed: "You had, or acquired, a rather specialised faculty of insight and manipulation in dealing with diversities of character and temperament."

As a peace-maker and political broker, he moved with a sure instinct, rarely allowing personal feelings to divert him from the main chance. It is notable that, although never close to Lloyd George, Asquith treated him with tact and respect throughout this period; and conversely did not allow his friendship for Reginald McKenna to compromise him in this connexion. Thus, mediating between them in March 1915, Asquith was "glad to say that in the end I not only lowered the temperature, but got them into an almost friendly mood." His letter the next day showed his gratification, for "the same pair have just been and spent over 2 1/2 hours with me, roving like sucking doves in a concerted chorus of agreement and appeal . . . It was not to last, but while it lasted this political equilibrium undoubtedly depended upon the exertion of Asquith's peculiar gifts. That Lloyd George saw McKenna as his real rival and antagonist, and ultimately as the source of much poison in his relations with Asquith, who was otherwise, fairly well disposed towards him from the side of the published diary of Frances Stevenson, Lloyd George's mistress, broke up into Asquithian and Lloyd Georgian factions, what is remarkable is the lack of any deep-seated animosity between the two principal camps.

Turning from Asquith's public life to the correspondence itself, it must be said at once that these are love letters. They cannot possibly be regarded as merely sentimental, and their erotic charge clearly signalled a



H. H. Asquith in 1913

direct to Margot. The more innocent gloss which she at times put upon them was, to put it at the least, innocent on her part. Her contention that "she shows me all his letters & all Venetia's" does not ring true as a literal account, whatever the admirable canons of liberality observed in the Asquith household. This does not mean, however, that Venetia was Asquith's mistress. It may have been so - who can tell? - but the tenor of the letters suggests otherwise.

There were two notable changes of gear in the relationship. The first came at the beginning of 1912 when Venetia really emerged from her schoolgirl role as Violet's friend and appeared in a new light to the prime minister. "Suddenly, in a single instant, without premonition on my part or any challenge on hers, the scales dropped from my eyes," he wrote three years later. It was a moment on which he looked back both fondly and frequently - it was when "I made my great discovery of the real you." This is a suggestive phrase, to be sure, and one which Edwardian fiction could endow with explicit sexual connotations. But Asquith seems only to have been playing with it in such references as "such a sweet and characteristic expression and revelation of your real self," or the saccharine tribute: "You were (as you always are) your real self today: sweet, resolute, undecaying."

It is notable, all the same, that one of these phrases dates from August 1914, coinciding with another statement which lends itself to an obvious construction: "I wd give more than I can put down on paper to be able to - some sentences are better left unfinished." Obvious or not, the idea that Asquith was in any position to consummate his passion for Venetia at this juncture - busy man as he was - must be discounted on contextual evidence. A further contemporary comment provides confirmation of the proportion of physical to emotional involvement. On July 29 there comes Asquith's thrilling assurance: "I shall never forget a week ago to-night." This tempestuous occasion, however, is later identified from his pocket diary as "a most divine hour I spent with you at Mansfield St late on July 22nd" - that is, at her own parents' house, on terms tolerated by them. It needs only Asquith's forlorn penitence: "I wonder if you have forgotten it?" to set the scene. There was undoubtedly a second change of gear in the relationship in July-August 1914, but the intensity

of the verbal bombardment is pretty certainly how it expressed itself.

Considered intimately, therefore, the liaison was probably not carried as far as might initially be supposed. But there was clearly much more in it than was apparent to members of Asquith's circle, for all their ready acceptance that the Prime Minister, as he put it himself, manifested "perhaps a slight weakness for the companionship of clever and attractive women." This served as his cover. It meant that his contacts with Venetia needed no apology provided nothing happened to limit the indulgence they were accorded by the two families and friends alike. So the existence of the letters aroused no suspicion, though their substance would undoubtedly have done so at a point in which Asquith was not obdurate, as his officials began to transgress the borders of convention.

"Don't leave this on your table or in someone else's envelope," he warned at one point, and later professed himself "rather alarmed at the family curiosity as to the contents of my letters". Only when Venetia started her course at the London Hospital did the arrival of a messenger, delivering letters from the prime minister to a trainee nurse, in itself cause embarrassment. On Asquith's side, it is pretty clear from internal evidence that he did not rely upon the official arrangements for mail in 10 Downing Street; nor was it simply left to Margot to post the letters she happened to find in the front hall - her subsequent recollection notwithstanding. In practice, the Prime Minister made a point of seeing that his letters to Venetia were correctly stamped and often put them into the box himself, probably on his walks across to the Athenaeum.

At the Athenaeum - "the only place where I am free" - he was, of course, safe from Margot, whose vigilance he undoubtedly found taxing, especially when he sought respite from public affairs. In Margot he had a loyal, vivacious, outspoken supporter; but to be coupled up with her, rehearsing in an impetuous, undisciplined way the disputes of the day, was not the way he wished to spend his nights. When he had married her in 1892, as his second wife, she had opened doors for him in creating a stylish social life which he certainly enjoyed. By 1915 she was adopting a more tragic aspect, brooding in "the knowledge that I am no longer young & I dread" - in fact I always observe - as men get older they like different kinds of women . . . Asquith was not unfaithful to Margot. He regarded marriage, in 19 cases out of 20, as exhibiting "all the many shaded gradations between selfism, colourless acquiescence and habit, a more or less workable *modus vivendi*, and hunger & desire." His own marriage was sustained until his death, providing the framework for a vigorous and varied family life: evidence in itself that some *modus vivendi* had been found.

It is not very mysterious what Venetia had to offer Asquith. Aged 27 in 1914, presentable, well-connected, good-natured and trustworthy, she was well qualified for an *amie amoureuse*. What Asquith had to offer was a flattering degree of attention from a man of great eminence whose name was readily associated through the veils of discretion and formality with which he was customarily surrounded. It was an implicit trade-off between sex and power, mutually titillating in the way that each fed off the other. This was the phases of the affair had a private and public synchronization. It was no accident that it began at a time of political tension in March 1912 - "I remember it was on the eve of the Coal Strike, which gave me one of the most trying experiences - up to then - of my public life," Asquith recalled. Thereafter, the emotional level was commensurate with the trying problems in British politics from which Asquith sought relief. "Bless you beloved," was the affectionate conclusion to his letters. But as the crisis over Irish Home Rule

impinged more sharply in July 1914, the note intensified: "My darling - you are dearer to me than I can tell you." Moreover, Venetia was now told, for example, of an interview "which is most secret" between Asquith and Northcliffe, with none of the precaution over mentioning actual names in which allusions to earlier meetings with Carson had been shrouded.

When Ireland itself came to be eclipsed by the imminent threat of European war, Asquith's endeavours and indiscretions scaled new heights. He claimed that "I want you to keep an account with what is going on step by step in these anxious days," and laced his letters with the latest information. The disposition of British troops in France - "all this is most secret" - was revealed. His only regret was the lack of "something like a code that we could use by telegraph" so as to cut out postal delays. "Do you think it is impossible to invent something of the kind?" he asked Venetia. The bright idea of the prime minister sending telegrams full of his military secrets to his girlfriend in an amateur code of her own devising is surely beyond the reach of satire. Asquith at last had to make do without this scheme: in his modest urge to spill the beans, 11th October 27, 1914 he wrote under some check of "a terrible calamity on the sea, which I dare not describe, but by chance my letter should go wrong." Yet, on October 28, this information, kept from the Germans for another five weeks, was given to her fully as "the sinking of the *Audacious* - one of the best & newest of the super Dreadnoughts, with a crew of about 1000 and 10 13.5 inch guns, off the North coast of Ireland. Name, number, crew, position - what more could German intelligence have wanted? The *Dardanelles* produced the same effect a few months later. "This as I said is supposed to be a secret . . ."

What Asquith seems to have done was to subliminally political tension into sexual fantasy, finding the release which was impossible with Margot in his ejaculations for Venetia. Meeting just often enough to keep him going, with sufficient constraint in the "Nymphomaniac" to preclude much beyond a pressing of the hand or a fleeting farewell, these were paper transactions, nourished chiefly on Asquith's over-imagined imagination. "Do you ever day-dream?" he asked. "By which I mean lean back in your chair & close your eyes, & reconstruct the background of memory. Half forgotten events & people live again, old hopes & fears, critical moments, the seemingly unimportant but the really meaning choices & decisions of one's life." This is not how one would generally picture Asquith behaving. Here, however, is another passage, of a rather earlier date, which shows its author in exactly this state:

I either feel depressed or my cursed habit of sentimental castle-building leads me to harp back upon the past. Scenes the vividness of which seem to make them real dominate my mind & I love, for moments at least, my self-control. And then there is the inevitable reaction. Oh! the mysteries of human feelings.

It was not Asquith who wrote this in June 1899, but Beatrice Webb in her diary. She had already been married to Sidney for seven years, seeing in him qualities which she had not found in other men of her acquaintance, like Asquith, whose captivation by Margot she deplored. But suppose we day-dream that Beatrice might, as is conceivable, have taken Margot's place from 1892? What emotional as well as political functions might thereby have been served? At any rate, one thing seems likely: we would not now possess a handsome volume of letters to Venetia Stanley.

*Peter Clarke is a fellow of St John's College, Cambridge.*



[illegible]



# BOOKS

## Are there any laws of physics?

The Accidental Universe  
by P. C. W. Davies  
Cambridge University Press,  
£16.00 and £4.95  
ISBN 0 521 24212 6 and 28692 1

There has grown up, even among many educated people, the view that everything in Nature, every feature of its laws, is determined by the local environment in which it was nurtured - that natural selection and the Darwinian revolution have advanced to the boundaries of every scientific discipline. Yet, in reality, this is far from the truth.

Twentieth-century physicists have discovered that there exist invariant properties of the natural world and its elementary components which render quite inevitable the gross size and structure of almost all its composite objects. The astronomical distances, like stars, planets, and even people, are neither random nor the result of any progressive selection process, but simply manifestations of the different strengths of the various forces of Nature. They are examples of possible equilibrium states between competing forces of attraction and repulsion.

A study of how these equilibrium states set up and how their form is determined, reveals that the structure of the admissible stable states is determined, aside from geometrical factors like  $\pi$  or  $e$ , by those parameters we have come to call the fundamental constants of Nature; for example, quantities like the electric charge of the electron, the ratio of the electron and proton masses, the strength of the strong force between nucleons, and so forth.

Suppose we were to commission a survey of all the different types of objects in the Universe from the scale of elementary particles to the largest clusters of galaxies. A picture could be prepared which plotted all the objects according to their mass and their size, or average dimension. A priori we might have expected our picture to be covered by points in a fairly haphazard fashion but this is clearly not the case. Some regions of the diagram are heavily and systematically populated, whereas others remain very obviously empty.

Our likely reaction would probably be one of the following three: we could suspect that the points were distributed completely at random - any preference for a particular region of the diagram being purely statistical; or the correlations are real coincidences. Or perhaps we are the victims of a powerful selection effect? Some structures may be unseeable by observers and their existence might explain any areas of significant depopulation in the diagram. Finally, we could try and explain the picture by appeal to stability criteria. The "rules" of Nature allow only certain types of structure to exist for long periods of time. The populated regions of our diagram are simply those that describe the stable equilibrium states between different natural forces.

This last alternative is the one that successfully and naturally describes the spectrum of objects on view to astronomers. This short book is an expanded version of some earlier review articles and books, well-known

to astronomers, which seek to demonstrate how it is possible to deduce the gross characteristics of cosmic objects by a knowledge of dimensional analysis and elementary physical reasoning. The treatment is specifically geared to British undergraduates in that A level physics is used and, unlike in the research literature, SI units prevail.

The author first supplies some clear and simple accounts of elementary particle theory, quantum mechanics and relativistic cosmology before moving on to evaluate the necessary scales of structure that emerge in equilibrium states between different forces. These applications form the core of the book but here I found the treatment rather disappointing. Although the exposition remains clear, the choice of material for inclusion and exclusion has not been well made. For instance, although arguments are given to explain the approximate size of galaxies, planets and hydrogen-burning stars there is no discussion of stellar evolution nor a derivation of white dwarf and neutron star sizes. This would have been far more instructive than the more speculative estimates of galactic dimensions which rely on specific assumptions about their mode of formation. It is this part of the discussion that illustrates one side of the book's two-edged title and shows why the gross features that astronomers observe are not accidental. They might have been predicted by someone of sufficient intelligence who knew the laws of physics. There are good reasons why planets and stars and even people come in the proscribed size ranges we see. Why, then, an "accidental" Universe?

The author introduces the reader to a number of cosmic accidents and a reaction to them called the "anthropic principle". The pleasing fact that so many critical aspects of the Universe are fashioned by (apparently) unchanging properties - the so-called constants of Nature - actually creates our problem. In many cases it has been found that dimensionless combinations of various completely unrelated constants of Nature give pure numbers which have virtually equal values that are extraordinarily large. No explanation for these coincidences exists. A classic example is the rough equality between the ratio of the electric to gravitational forces between two protons and the square root of the number of atoms in the observable Universe - both are roughly equal to ten followed by thirty nine noughts!

In the early 1960s Robert Dicke pointed out that these coincidences play an important "humanitarian" role. If they did not exist then neither would we. They codify certain properties of the Universe - like its large size, great age, lack of antimatter, and so forth - which are necessary prerequisites for the evolution and persistence of life as we know it. This book has been written twenty or even ten years ago, it would have described more "laws" of Nature than today. Human beings

conceive it. Were the values of the natural constants to differ from what we observe, the Universe really would be unimaginably different, for observers like ourselves could not exist. Of all the possible universes that we can conceive of, almost all would be unable to evolve and sustain atomic life. Paradoxically, the uniqueness of our Universe is impressed most forcibly upon us by the fact that we can, in our ignorance, conceive of so many plausible alternatives. The anthropic principle is a label for the recognition of the fact that the Universe allows life to exist because of a series of unexplained coincidences (or "accidents") concerning the magnitudes of its defining constants.

Davies gives a summary of various scientists' interpretations of these "accidents". Some have tried to invert the logical thread and claim that the concurrence of so many independent accidents provides circumstantial evidence for the strange conclusion that observers are in some sense necessary for the Universe to exist. However, I felt that the author's approach of quoting directly from the writings of the various contributors to this issue was unsuccessful. Several were quoted out of context and the content of their reasons diluted to too low a level. The reader who has not met these ideas before needs a more integrated explanation.

The main objection to the anthropic principle is probably the question: Where, or what, are the other defective, life-free worlds that might have been? We can only have grounds for statements of comparative reference regarding the world we see if others really do or could exist. Davies describes some of the available options, notably one which he writes about at a popular level elsewhere: the "many-worlds" interpretation of quantum mechanics. This requires, for a self-consistent picture of quantum theory (our most successful physical theory), the existence of an infinity of independent realities, through which we weave a path by the continual process of observation.

Although most physicists implicitly subscribe to the many-worlds interpretation of quantum mechanics whenever they use the theory, this aspect of it seems to play no role in calculating observable aspects of microphysics and, if pressed, they would probably regard it as a sort of excess metaphysical baggage to be dropped off and parked up again at the door of the laboratory. A more convincing rationale for the existence of different possible worlds is necessary if the "accidental universe" is to be a meaningful and testable statement. Perhaps there is one possibility that has been overlooked and which might, subject to the future course of physics, fit the bill?

If this book had been written twenty or even ten years ago, it would have described more "laws" of Nature than today. Human beings

have a habit of perceiving in Nature more laws and symmetries than truly exist there. During the past twenty years we have seen a gradual erosion of supposed "principles" and constants of physics, as Nature has revealed a deep, hidden flexibility of previously unsuspected extent. Many quantities that, traditionally, we believed to be absolutely conserved - parity, charge conjugation, baryon and lepton number - all seem to be violated in elementary particle interactions. The neutrino was always believed to be a massless particle but recent experiments have provided evidence that it does possess a tiny mass. Similarly, the long-held myth that the proton is an absolutely stable particle is being re-written by recent theoretical arguments and experimental evidence. Its instability, adopted an extremely revolutionary spirit and it is fashionable to question other long-standing conservation laws and assumptions - is charge conserved, is the photon massless, is the electron stable, is Newton's law of gravity exact at low energy, is the neutron neutral, and so on?

This steady trend from more laws of Nature to less provokes us to ask the overwhelming question: "Are there any laws of Nature at all?" If the answer is "no" then the "accidental" Universe is a particularly appropriate description of the question. It also adds a new and appealing twist to the anthropic principle's dilemma of finding the "other worlds".

It is possible that the rules we now perceive governing the behaviour of matter and radiation have a purely random origin, and may be an "illusion", a selection effect of the low energy world we necessarily inhabit. Some preliminary attempts to flesh out this skeletal idea have shown that even if the underlying symmetry principles of Nature are random - a sort of chaotic combination of all possible symmetries - then it is possible that at low energies the appearance of particular invariances is inevitable under certain circumstances.

A form of "natural" selection may occur wherein, as the temperature of the entire gamut of "elementary particles" have a significant impact upon the behaviour of elementary particles, and orderliness arises. Conversely, as the ultimate energy of the Big Bang is approached, this picture would predict chaos. Our low energy world may be necessary for physics as well as physics.

Let's recall a simpler example of what might be occurring: If you went out into the street and gathered in everyone passing by over a long period of time, you would find that the graph of the frequency of individuals versus height inevitably tended more and more closely to a particular shape. This characteristic "bell" shape is called the "normal"

or Gaussian distribution by statisticians. It is ubiquitous in Nature. The Gaussian is characteristic of the frequency distribution of all truly random processes regardless of their specific physical origin. As one goes from one random process to another the resulting Gaussians differ only in their width and the point about which they are centred. A universality of this sort might be associated with the laws of physics if they had a random origin.

Suppose that a programme of this sort could be substantiated and provide an explanation of the symmetries of Nature we currently observe; and so, in principle, some of the values of fundamental constants might have a quasi-statistical character. In this case, the anthropic interpretation of Nature might be slightly different. If the laws of Nature are statistical in origin, then again, a real ensemble of different possible universes must exist. Our own Universe is one realization of the ensemble. The question now is, are all the features of our Universe stable or generic aspects of the ensemble or are they special. Seen in this light, these "anarchic" theories are rather attractive to the anthropic interpretation: they allow real, alternative universes as possibilities without incorporating the simultaneous presence of an infinite number of many worlds; they also allow, in principle, a precise mathematical calculation of the probabilities of seeing a particular aspect of the present world and a means of evaluating the statistical significance of any inhabitable universe. In a very general way we can see that the crux of any final analysis of this type, whatever its detailed character, is going to be the temperature of the universe. Only in a relatively cool universe, reliable, invariant laws of Nature be discernable; similarly, however, only in a cool "accidental" universe can life exist.

Despite some shortcomings, this is a stimulating book, and indeed it may well be by uncovering the shortcomings that the reader will be most stimulated. Students might be encouraged to sample the chapters on order of magnitude analysis since they promote a style of thinking essential to the armoury of the theoretical physicist, and one which often comes as a complete, but welcome, surprise to the new graduate student. Last, but by no means least, the reader will develop a healthy respect for coincidence in physics. Many great advances in our understanding of the Universe have blossomed from the roots of coincidence; for, as Miss Murrell once recommended, "Every coincidence is worth noting; after all, you can always throw it away later if it is only a coincidence".

**John Barrow**  
John Barrow is lecturer in astronomy at the University of Sussex.

language requirements in terms of an unimpaired language which has all of the desirable properties he demands. One is often led to the conclusion that the language exists (which it presumably does not).

The remainder of the book is a review of the features of RTL2, Modula 2, Pascal, and Ada. Ada is a new language which has been designed on behalf of the United States government and which will probably become the "standard" language for the real-time area within a few years. Young makes it very clear that his sympathies are with Ada, although he is quite rightly critical of its features in certain areas. This part of the book contains several example programs. My only criticism of this part of the book is that I feel he should have concentrated on Modula 2 (now widely available on micros), as this has removed most of the problems with Modula, and which provides an interesting competitor for Ada.

The book is well written with clearly printed text and many program examples.

**I. C. Wand**  
I. C. Wand is senior lecturer in computer science at the University of York.

# BOOKS

## Attachment drive

The Place of Attachment in Human Behaviour  
edited by Colin Murray Parkes and Jaan Stevenson-Hinde  
Tavistock, £14.00  
ISBN 0 422 77600 9

I doubt whether the World Health Organization quite realized the consequences of its actions when, in 1948, it asked an ex-army psychiatrist by the name of John Bowlby to write a report on the psychological effects of separating young children from their mothers. John Bowlby's report had a volcanic effect in both professional and lay circles - repercussions far beyond the narrow brief he had been given.

Since then his theories and pronouncements have been subjected to the confusing process of quotation and misquotation that seems to attend the work of all such male mentors on womanhood. More than that, of course, these theories have themselves changed - not beyond recognition but from assertions about maternal care into what purports to be a more broadly-based theory of human "attachment" behaviour (developed by Bowlby in the three volumes of *Attachment and Loss* published between 1969 and 1980; a second edition of volume one has recently been published by the Hogarth Press at £15.00).

The present volume is a professional tribute to the work of John Bowlby. It takes the form of a collection of essays by 17 researchers who have, in one way or another, been inspired to investigate one or other aspect of attachment behaviour. The book is divided into four parts: part one deals with what is termed the "normal" development of child-mother attachments, part two with their "abnormal" development, part three with the implications of childhood attachments for attachments in adult life, and part four with the location of certain adult psychiatric disorders in earlier attachments and their problems.

The principal message of the book has to be: attachment theory is alive and well. However, the message conveyed by different contributors is, not surprisingly, and most heartily, discordant: it is true that a normal one-year old has one prime attachment figure, or is it true that it is normal for there to be multiple competing attachment figures? What does an individual's attachment behaviour in one relationship say about that individual's other relationships - all or nothing? What is the nature of the connection between attachment and security - profound or tenuous?

Anyone who believes that the past decade or so has witnessed a revolution in parenting will do well to read the contributions in parts one and two. The focus on the mother is also alive and well, which, on its own, matters not at all, but does matter very much in that it has severely impaired the conceptual development of the field. Thirty years after Bowlby's original monograph, there are still only a handful of studies seriously concerned with adult-child relationships other than the central paradigm of the relationship between biological mother and child. It may very well be that this situation is of great importance, but we cannot really establish this without devoting at least as much research attention to other child-adult relationships.

Peter Marris's chapter in part three on "Attachment and society" stands out as providing a much-needed understanding of why this long tradition of research on attachment behaviour has made what is counted, even by many of the contributors to this volume, as relatively modest progress. The culture in which we live, being "rationalistic" according to a certain meaning of that term, is embarrassed by anything that reeks of love. When the meaning of love cannot be comprehended, love is idealized, and mothering too; the image of a

mother's love becomes the paradigm of all truly meaningful relationships. Any inquiry into what is called "attachment" cannot therefore avoid being "implicated in these ideological impulses". Indeed, the concept of attachment may, itself, be seen as rationalization - of the old idea of community, of divided and divisive gender roles, of an economic system based on the exploitation of the majority by a minority.

What this means is that, while the infant's drive towards attachment is innate, the manner in which it happens is learned and variable according to culture and historical epoch. And as the pattern is partly set by the social context, so, of course, the detailed work (such as that on early loss and depression discussed here) is learned and variable according to the particular cultural pattern is extremely variable. Can valid generalizations be made about what by definition constitute the unique elements of every individual's experience? This remains the challenge for all who pursue the concept of attachment behaviour.

**Ann Oakley**

Ann Oakley is a Wellcome Research Fellow at the National Perinatal Epidemiology Unit, Oxford.

## Spoiling for a fight

Aggression and Violence  
edited by Peter Marsh and Ann Campbell  
Blackwell, £16.00  
ISBN 0 631 12742 4

As this book contains 12 chapters which view the subjects of aggression and violence from very diverse perspectives, it is difficult to comment on the book as a whole. The editors do not attempt an overall synthesis, perhaps wisely in the circumstances, and restrict themselves to a few preliminary general comments.

The contents are cross-disciplinary in that there are contributions from anthropology, developmental psychology, sociology, criminology, behavioural endocrinology and social psychology. There are also three chapters by people directly concerned with the practical problems of aggression: a famous ex-prisoner, a New York police officer and the principal of a school containing aggressive adolescent boys. Of these, John McVicar's is the most successful in that it contains an appropriate blend of practical experience and conceptual analysis.

The whole book is concerned with violence in a societal context, and hence represents an attempt to shift the focus of research away from the individual. Many previous books on the psychology of aggression and violence have concentrated on the individual, analysing aggression as a series of specific influences which can be simulated in the laboratory, or implying that the problems of individual aggression are biological in origin and can be viewed in terms of biological malfunction or faulty learning. Most chapters in this book represent a radical departure from this tradition. Even the solitary chapter on animal aggression is concerned with how aggression influences bodily state and not with the usual, more reductionist view that hormonal levels determine aggressive behaviour.

Although most authors reject an approach centred on individuals isolated from their social context, they are by no means in agreement on even certain about what to put in its place. Peter Marsh faces this problem in his chapter on the theories of violence. He is more concerned with how people talk about violence than with violent acts themselves. His thesis is that violence is like sex in that it is not talked about much more than it is. But the problem still according to a certain meaning of that term, is embarrassed by anything that reeks of love. When the meaning of love cannot be comprehended, love is idealized, and mothering too; the image of a

mother's love becomes the paradigm of all truly meaningful relationships. Any inquiry into what is called "attachment" cannot therefore avoid being "implicated in these ideological impulses". Indeed, the concept of attachment may, itself, be seen as rationalization - of the old idea of community, of divided and divisive gender roles, of an economic system based on the exploitation of the majority by a minority.

fully recognize the difficulties, and in doing so takes a side-swipe (to use the rhetorics of violence) at William Belson's over-publicized work on media violence which naively accepted accounts of violence as research data.

Three chapters contain research reports on children's beliefs about aggression, on adolescent girls' aggression, and on hormones and aggression in monkeys. These serve to provide the book with some variety, as most of the other chapters are more general and theoretical in nature. Graham Murdoch, for example, discusses the influence of violent images in the media and attempts to put this debate into a wider social context. Although this is useful, the chapter would have benefited from tighter editing. Paul Heelas examines the notion of catharsis in anthropological studies and David Cownes describes the various sociological perspectives on adolescent aggression, but only manages a shallow and disappointing discussion of these, possibly as a result of space restrictions.

Two chapters swim against the wider societal perspective of the book. One, by Len Beakowitz, is a misguided attempt to criticize analyses of the social rules of violence, and to reinstate an individual psychological perspective. The other is by Robin Fox, an anthropologist who demonstrates the pitfalls of interdisciplinary dabbling by using a conceptual framework derived from evolutionary studies. During the past 15 years, developments in ethological research on aggression have been prolific, but news of such developments apparently travels slowly. Nowadays there is general recognition of the biological absurdity of Konrad Lorenz's view that animals have to rouse themselves periodically and go looking for a fight.

Altogether I found this odd assortment of chapters a stimulating and thought-provoking mixture.

**John Archer**

John Archer is senior lecturer in psychology at Preston Polytechnic.

## Archetypal endowment

Archetype: a natural history  
by Anthony Stevens  
Routledge & Kegan Paul, £12.50  
ISBN 0 7100 0980 1

This is a brave attempt to reinterpret Jung's comprehensive theories of human psychology in the light of recent research in the fields of animal behaviour (ethology), attachment and neurophysiology. Written in elegant and at times poetic prose, and with characteristic Jungian exaltation, it is a very unusual book.

Anthony Stevens has cast his net widely to include the whole of human spiritual, moral, social and psychological activity and experience. Inevitably, he has relied heavily on other writers, particularly Jung and Bowlby, whose work is well summarized in these pages. His integration of the work of these two remarkable men, which occupies much of the first third of the book, is ingenious and on the whole successful.

Central to Jung's psychological theory are the archetypes, "active living dispositions" which "transcend culture, race and time". Although embodied as symbols ("the Great Mother", "the Father-Warrior", and so on) Jung's archetypes are not intended to denote inherited ideas or images as inherited modes of functioning. Stevens argues that archetypes are "biological entities which have evolved through natural selection - they are ancient genetically determined releases and inhibitors of behaviour. This view of archetypes makes them directly comparable to the "innate releasing mechanisms" which ethologists envisage as the triggers for "goal-directed behavioural systems".

For readers unfamiliar with Jung and Bowlby, Stevens provides an extensive glossary of technical terms. Nevertheless, it does not take much knowledge of psychology to understand the extraordinary significance of Jung's idea that "The form of the

world into which [man] is born is already born in him as a virtual image. Similarly, parents, wife, children, birth and death are inborn as virtual images, as psychic attitudes. They are... lacking in solid content, hence incoherent. They only acquire solidity, influence and even total consciousness in encounter with empirical facts. "The archetypal endowment", says Stevens, includes "being mothered, exploring the environment, playing in the peer group, adolescence, being initiated, establishing a place in the social hierarchy, courting, marrying, child rearing, hunting, gathering, fighting, participating in religious rituals, assuming the social responsibilities of advanced maturity, and preparation for death".

It is at this point that the critical reader becomes worried. Is Stevens really suggesting that there are in-born dispositions towards religious rituals and initiation rites? Are not these tendencies determined by culture rather than by innate predispositions (or "instincts") to use that obsolescent term? Stevens' answer is "both", and he quotes evidence from a wide variety of ethnological and anthropological studies in support of his views. But it is the last of his "archetypal endowments" which will arouse the strongest controversy, for low can natural selection have produced a predisposition to prepare for death? Surely, it is only those predispositions that lead to the perpetuation of the "selfish gene" that tend to persist, and it is hard to see how "preparation for death" can confer any biological advantage.

On the other hand, his arguments for detecting innate components in attachment, play, aggressive behaviour and sexual behaviour are strong and may account for the powerful symbols to which they give rise and which appear in the dreams and myths of all nations.

Foremost among the archetypes is "Mother". And Stevens, in common with most other psychologists, sees the person who first provides consistent and appropriate mothering as conferring upon "the child the priceless experience of living in a predictable, reliable world." Insofar as the real mother conforms to the inborn archetypal image, the relationship will develop in a healthy way, but any disjunction between the actual mother and the "archetypal" intentions encoded in the genes leads to trouble. Just as the cuckoo is programmed to seek for and mate with another cuckoo, despite the fact that it may have been brought up as a blackbird, so the child whose need for mothering has never been adequately met may continue, throughout life, to seek for an object which he or she has never encountered, an ideal parent.

In the middle section of his book Stevens describes how other archetypes develop. He puts forward a plausible explanation for the child's developing view of its own self and includes a touching account of his discovery in childhood of the realms of his own body. Here Stevens does not hesitate to draw far-reaching and controversial conclusions about militant feminism ("a preposterous violation of archetypal intent"), the anti-authoritarian Zeigler of many young people today (a rejection of the archetypal masculine), the "matrist" society ("When they grow up father-absent children modify society in the direction of matrist because the putative attributes of the father archetype remain unactivated in their psyches") and the high prevalence of homosexuality (attributed partly to the abandonment of "initiation rituals" by which "... father-warriors [are] made ready to meet their biological destiny in procreation and defence if the population is to survive").

It is both the strength and the weakness of Jungian psychology that it rejects purely intellectual solutions to emotional and spiritual problems. Thus, to develop one's personality, says Stevens, one must learn "the art of letting things happen" despite the "cramps of consciousness" which prevent us. If that is the case, one wonders why he had to write the book at all.

For the reader who is capable of retaining his critical faculties in the face of threats of Nonsense, there is much to be considered in this fascinating volume. I, for one, am happy to allow this Jungian thinker to have his intellectual cake and eat it.

**C. M. Parkes**

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John Bowlby

There is plenty of room for argument and few readers will find themselves agreeing with every one of Stevens' pronouncements. But it was in the final section of the book that I found myself totally unimpressed. Here Stevens draws out from the tenuous and confusing findings of neurophysiological research an elaborate theory of psycho-anatomy. Thus, he associates extraversion with the left hemisphere and introversion with the right, while assigning archetypes to the limbic system and brain stem. Modern music and art are seen as dominated by mathematics and therefore functions of the left hemisphere of the brain, as is the "tyrannical intellect" which has given rise to the threat of nuclear destruction. The aim of psychotherapy, says Stevens, is "to reduce the left hemisphere's inhibition of the right and promote communication across the corpus callosum".

This kind of wild speculation on the basis of very inadequate evidence, reduces the credibility of much else that precedes it. One is reminded of earlier attempts to determine the anatomical location of the soul (one anatomist placed it in the pituitary gland). And, of course, Stevens is not afraid to tackle the spiritual dimension.

Perhaps the most elusive concept with which Stevens deals is "self-actualization" or "individuation". This is "a conscious attempt to bring the universal programme of human existence to its fullest possible expression in the life of the individual", and it clearly has moral and mystical connotations. It seems a far cry from the "archetypal intentions encoded in the genes" which are presumably only concerned with the perpetuation of the gene by natural selection. Somewhere something is missing, and it does not help very much to invent a "transcendent function" which enables the suffering induced by allowing good and evil to emerge into full consciousness, to be transcended.

It is both the strength and the weakness of Jungian psychology that it rejects purely intellectual solutions to emotional and spiritual problems. Thus, to develop one's personality, says Stevens, one must learn "the art of letting things happen" despite the "cramps of consciousness" which prevent us. If that is the case, one wonders why he had to write the book at all.

For the reader who is capable of retaining his critical faculties in the face of threats of Nonsense, there is much to be considered in this fascinating volume. I, for one, am happy to allow this Jungian thinker to have his intellectual cake and eat it.

**C. M. Parkes**

C. M. Parkes is in the Academic Unit of Psychiatry in the London Hospital Medical College.

## IMPACT OF COPYRIGHT INFRINGEMENT AND PHOTOCOPYING ON PUBLISHING PROFITABILITY

by Eugene Gros

Extensive factual information on studies in Europe and USA, with opinions of leading librarians and publishers from Britain, France and USA, and excerpts from European and American copyright laws. This very detailed report is of vital interest to publishers, the legal profession, librarians in non-profit and commercial organisations. A "must" if you want to judge the Constativa (Green) Paper on Copyright Reform.

Price: £50.00  
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Cambridge CB5 8DT  
Telephone: (0223) 311479

## Language design

Real Time Languages: design and development  
by S. J. Young  
Ellis Horwood: Wiley, £29.50 and £12.50  
ISBN 0 85312 251 2 and 460 4

Programming languages have been a lively issue ever since the development of the first computers in the late 1940s. As soon as these computers were used it was realized that programming in machine code (or assembly code) was both hard work and error-prone. Furthermore, it meant that programming could only be done by the specialist. This only discovery gave rise to the development of program parts that could be used in many programs (and so-called high-level programming languages). These are languages in which a pseudo-mathematical notation is used and which are independent of the computer on which the program is being run. Such languages are intended to make computers usable by the non-specialist programmer.

The 1950s saw the development of most of the ideas in programming

language design that are still with us today. FORTRAN and Algol were designed and put into use; the former is still widely used. The 1960s saw the development of languages for commercial computing such as COBOL, together with many languages for specialist applications, such as text processing. The end of the 1960s was dominated by a desire to find a single programming language that could be used for all or most programming activities.

The past decade has been a period of concentrated research into the mathematical basis of programming and of the language mechanisms best suited to support these ideas. The major result has been to simplify programming languages giving up the idea of finding a universal language; the latter the language, or so the argument goes, the more likely the programmer is to understand the language he is using, the more likely the compiler software is to be correct, and the more likely the resulting program is to be correct.

Real-time computing is concerned with the programming of computer systems in which the computer is connected to equipment, such as the controls in an aircraft or a robot on a factory production line, which must respond within a certain time interval. In certain applications this re-

sponse time is critical and may be vital to the safety of both humans and equipment. The development of programming languages for this area has been going on for the past fifteen years, although machine code is still widely used for reasons of efficiency. Within the United Kingdom we have been fortunate to have two widely used languages, CORAL-66 and RTL2, both of which have been adopted as national standards. Elsewhere the position is more confused; in the United States, for example, the Department of Defence was using six different languages in the mid-1970s.

Steve Young's book is an excellent review of the development of programming languages for this important area. The majority of the book is taken up with a detailed discussion of the general requirements of a language designed for the real-time area. As he suggests, a suitable language will require most of the characteristics of its more conventional predecessors but will require extra facilities for the handling of equipment, for the structuring of large programs, and so on. I found this section of the book most illuminating; for example, Young includes a section on the properties of the arithmetic types including fixed-point, fractions, and so on. If I had a criticism to make of this part of the book it would be that it discusses

language requirements in terms of an unimpaired language which has all of the desirable properties he demands. One is often led to the conclusion that the language exists (which it presumably does not).

The remainder of the book is a review of the features of RTL2, Modula 2, Pascal, and Ada. Ada is a new language which has been designed on behalf of the United States government and which will probably become the "standard" language for the real-time area within a few years. Young makes it very clear that his sympathies are with Ada, although he is quite rightly critical of its features in certain areas. This part of the book contains several example programs. My only criticism of this part of the book is that I feel he should have concentrated on Modula 2 (now widely available on micros), as this has removed most of the problems with Modula, and which provides an interesting competitor for Ada.

The book is well written with clearly printed text and many program examples.

**I. C. Wand**  
I. C. Wand is senior lecturer in computer science at the University of York.



## BOOKS

### Ecology of culture

Archaeology as Human Ecology: method and theory for a contextual approach  
by Karl W. Butzer  
Cambridge University Press.  
£22.50 and £7.50  
ISBN 0 521 24652 0 and 28877 10

Karl Butzer sets out to demonstrate that past human ecology, the study of which is archaeology, is as amenable to objective analysis and predictive modelling as is the ecology of any other species.

The author tackles this task from a geologist's viewpoint (though admitting that a biological viewpoint would do just as well) and then proceeds to present the broad sweep of archaeology, including such topics as site formation and cultural adaptation and change, in a new and thoroughly stimulating way. Some recent reappraisals of archaeological theory (the "new archaeology") have simply involved the expression of old ideas in new terminology. Butzer expresses his original approach to the subject in the language of ecology and other natural sciences.

The first part of the book deals in perspective, introducing the concept of ecology, and of context in the sense of a point in space and time to which a single relic or a whole landscape of sites belongs and in relation to which all studies of such antiquities must be viewed. Butzer wishes us to see an archaeological site in its setting of time and cultural level, and of the geomorphological and biological processes going on within and around it.

Chapters three to eight introduce and describe geoarchaeology in an accessible but diligent manner, encompassing the analysis of land-scapes, micro-environments and stratigraphy. They clearly illustrate the importance of the mineral sediment in which archaeological finds are buried in any understanding of site formation, modification or destruction, together with the more familiar theme of man's impact on the landscape.

Subsequent chapters outline archaeometry, with a good summary of dating techniques, archaeobotany, and zoo-archaeology. This latter chapter is a little disappointing, the author failing to give full credit to the value of studies on invertebrate groups.

The remaining five chapters deal in theory and models, and it is here that much of the book's value lies. Butzer succeeds in accommodating human behaviour and culture within his concept of ecosystem, and the interplay between internal and external influences in cultural change is always prominent. Chapter 13 is particularly important in pointing up the unpredictability of human behaviour, emphasizing the difference between the actual and the perceived environment.

It is reassuring to find such clear perception of the vagaries of human behaviour in a book which sets out with the intention of studying man through the techniques of an objective science. Equally gratifying in the discussion of Pleistocene hominization and Holocene cultural adaptation is the presentation of a mechanism whereby evolution and external environmental stimuli respectively provide the motivation and directional control for cultural and biological change.

Overall, the book is attractive and well-illustrated, and there is some very imaginative use of figures and tables. Most impressive is the list of references, which runs to nearly 37 pages - some 10 per cent of the volume. Butzer copiously illustrates his concepts and models with helpful and relevant examples drawn from all over the world, albeit mainly from the prehistoric period. At first glance, there is little here for the urban archaeologist, but with a little thought and imagination, this contextual approach could be applied to urban studies, where the statement "people are geomorphic agents" is particularly true.

Archaeology as Human Ecology deserves to find a place on the bookshelves of archaeologists of all persuasions. It is not easy reading. The prose is uncompromising, and uses the full range of the ecologists' and geo-archaeologists' vocabularies. This does not render it inaccessible, and even though a full understanding of some sections of the book may require long acquaintance and deep concentration, the effort will be repaid: there are few other textbooks on archaeological theory of which this could be said.

T. P. O'Connor

T. P. O'Connor is a research fellow (archaeology) at the Environmental Archaeology Unit, University of York.

## Mayan remains

Ancient Maya Civilization by Norman Hammond  
Cambridge University Press.  
£22.50 and £7.95  
ISBN 0 521 20177 4 and 28399 X  
Ancient Mesoamerica: a comparative study of change in three regions  
by R. E. Blanton, S. A. Kowalewski, Gary Feinman and Jill Appel  
Cambridge University Press.  
£17.50 and £5.95  
ISBN 0 521 22858 1 and 20682 X

A major point of this straightforward book, in which Professor Hammond aims "to survey what is currently known about the civilization of the Ancient Maya of southern Mexico and Central America for a non-academic audience", is that older interpretations of Ancient Maya society are now plainly inadequate. These views, developed during the 1930s, 1940s, and 1950s emphasized

theocratic polity, swidden maize agriculture, sparsely inhabited ceremonial centres, and an elite consumed by an all-pervasive concern with time. The subsequent chapters, each of which concentrates on a single theme: Subsistence and settlement. The structure of society, Politics and kingship. Trade and external contacts. Architecture and art. Men and gods. And the Maya mind. The main concern is with the Classic period (c. 250-900), and the basic orientation is a synchronic one.

As thorough and all-encompassing as this work generally is, however, there are still a few surprising omissions. For example, there is no reference to the important palaeo-ecological investigations and regional studies focused on the northern Peten, just west of Belize. Missing too is any discussion of the important work on prehistoric exchange based on ceramic studies in northern Belize. On the other hand, there is an extremely useful long bibliographic essay which will provide the interested reader with the means to pursue additional study on his own. The strength of this work, however, is not in the realm of interpretation. Hammond aims at broad synthesis, and he generally achieves it quite well. The reader is left largely with his own devices regarding the cultural development. However, this book with its wealth of well organized information and the leads it provides to more specialized sources, could readily provide an excellent starting point for thinking about why Classic Maya civilization in the southern Lowlands developed, flourished, and collapsed as it did.

*Ancient Mesoamerica*, by Blanton, Kowalewski, Feinman, and Appel differs in two basic ways from Hammond's *Ancient Maya Civilization*. First, it has a general Mesoamerican focus, and thus aims at a much larger area. Second, and most importantly, it is an interpretive study, which attempts to explain ancient Mesoamerican cultural development and its variability over time and space.

The authors' basic interest is cultural evolution, and their greatest concern is with operationalizing theoretical concepts so that material remains can be used effectively to derive information about evolutionary change. The general strategy is to examine three key regions for which there is good regional information: the Valley of Oaxaca, the Valley of Mexico, and the eastern (Maya) lowlands. In considering each region the authors look for key archaeological elements which they consider to be manifestations of those dimensions of societal organization which are "core features" of cultural evolution: scale (population size and areal extent of a cultural system), complexity (functional diversity in the component parts of the system), and integration (linkage of component parts). Their task is to describe these core features and explain change over space and time (from about 1500 bc until European contact in the early sixteenth century ad). A major focus is on the role of market economy and the evolutionary relationships between the organization of exchange and political authority.



Terracotta head found by Friedrich in 1910 in the Olinkan Grave, Nigeria. It appears to come from a figure, and has not only a human hairstyle but also raised ribs resembling keloid scarifications along the eyebrows, a feature not found on other Ife heads. Illustration taken from *The Atlas of Archaeology*, edited by K. Brünig and published by Munich at £15.95.

by ceramic-using people in the third millennium bc, through the development of increasingly complex organization during the long Preclassic era, and into the great florescence of the first millennium ad (the Classic period), and the great collapse of the early second millennium (the Postclassic). This outline sets the stage for the subsequent seven inter-related topical chapters, each of which concentrates on a single theme: Subsistence and settlement. The structure of society, Politics and kingship. Trade and external contacts. Architecture and art. Men and gods. And the Maya mind. The main concern is with the Classic period (c. 250-900), and the basic orientation is a synchronic one.

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The book which will almost certainly have significant impact well beyond the confines of Mesoamerican prehistory. Its main contribution is the development of important new hypotheses which can be used by archaeologists to structure new fieldwork and analysis aimed at explaining cultural evolution in ancient Mesoamerica. Many will disagree with the authors' interpretations, and they can be faulted for failing to address the causes of some important changes (for example, the collapse of Classic-period states focused on large centres, such as Teotihuacan, Monte Albán, and Tikal).

However, in the present state of knowledge and understanding, their views are at least as good as anyone else's. Most importantly, they have clearly pointed out some of the most productive research pathways that archaeologists interested in cultural evolution should follow if they are to come up with more definitive answers in the future.

Jeffrey Parsons

Professor Parsons is Curator of Latin American Archaeology in the Museum of Anthropology at the University of Michigan.

## Unique biomass

Ecology of Woodland Processes  
by John R. Packman and David J. L. Harding  
Edward Arnold, 18.95  
ISBN 0 7111 3311 2

Ecological processes are probably more complex in woodlands than any other type of ecosystem. Hence Packman and Harding have faced quite a difficult task in writing this textbook. It introduces the reader to nearly every one of the topics that would be included in an average undergraduate introduction to general ecology, although many topics are inevitably treated only superficially.

The first chapter sets the scene by introducing the concepts of woodland structure, nutrient cycling, energy flow and trophic levels. Plant parasitic fungi are strangely included among herbivores but otherwise it is a sound beginning. In this chapter and throughout the book key words are highlighted in a bold typeface on first introduction. These are an excellent adjunct to the index as a means of finding one's way around a book packed full of a great variety of information.

Chapter two covers the basic biology of woodland plants, photosynthesis and primary production and physiological adaptations to shade. Evidently born between the need to introduce general ecological concepts and the space that has to be devoted to discussing woodlands in their own right, the authors consign the topics of light measurement and plant growth analysis to a couple of tables.

The basically physiological approach to plant ecology taken in chapter two is also used in the next chapter on soils, climate and zonation. The word competition appears here in a sub-heading but there is no real discussion of it as a process influencing distribution in either animals or plants. With the notable exception of the chapter on succession, population processes (such as self-thinning and the tables) in woodland plants are ignored.

Reproductive strategies of woodland plants are covered in a separate chapter, which brings the integration of plants and animals of woodlands to the fore. Animals are mentioned as seed dispersers, seed consumers and as pollinators. In the discussion of pollination mechanisms it is said that self-fertility helps to "ensure" the production of new genotypes which is "important if the population is to remain capable of changing conditions". This unfortunate wording is open to misinterpretation by the student who has not fully grasped the difference between individual and group selection, particularly as natural selection is not dealt with.

The chapter on succession gives the reader a good feel for the continuing changes which occur in forests. This chapter also contains a brief quaternary history of woodland vegetation in Britain. Although the whole book is "set" in the British Isles, this chapter and others make frequent reference to woodlands in continental Europe, North America and the tropics, and the balance seems about right for a British audience at the introductory level.

Woodland herbivores, mostly insects, and forest pathogens are discussed in chapter six which also has an instructive section on Dutch elm disease. Animals make a full appearance in the next chapter where we go straight into key factor analysis and population regulation of the winter moth. The population dynamics of the pine looper and spruce budworm are also discussed very briefly, followed by the great tit and tawny owl.

For a book which tears breathlessly through so many topics, some might consider the 31 pages devoted to decomposition in chapters eight and nine overdoing it. But, at last we discover what is really unique about woodland ecosystems: most of the standing crop biomass is dead.

Jonathan Silvertown

Jonathan Silvertown is lecturer in biology at the Open University.

## Recent publications

*Currents 80* published in both national and London/South-East editions. It is a comprehensive guide for jobseekers to recruitment, training schemes and publications. Written in three clear and precise sections with an invaluable reference guide, the book is of genuine use and interest to 16-plus school and college leavers. Distributed free to schools, sixth form colleges and careers offices, *Currents 80* can be purchased at £2.95 (ISBN 0 8500 0000 0) from local bookshops. (*Currents 80* VHS Video Publication: ISBN 0 8500 0001 8)

Scientific papers delivered during the 1982 meeting of the Association of Commonwealth Universities Council have been published in pamphlet form as *Universities facing the challenge of the eighties: can they survive in their present form?* Further information and copies can be obtained from The Association of Commonwealth Universities, John Foster House, 40 Gordon Square, London WC1H 0PF.

The text of N. H. Harte's commemorative lecture, "One Hundred Years of History Teaching at University College London", has been published in pamphlet form. Dr Harte, senior lecturer in economic history at UCL, gave the lecture on October 30, 1980 with the patronage of UCL. Sir James Lightfoot, in the chair. Copies may be obtained from the press office, University College London, Gower Street, London WC1E 6BT, at 50p each.

The Association of Commonwealth Universities' *Scholarships Guide for Commonwealth Postgraduate Students* is an index to grants, loans, scholarships, assistantships, etc., open to graduates of Commonwealth universities who wish to undertake postgraduate study or research at a Commonwealth university in their own country. It is available from the ACU, John Foster House, 36 Gordon Square, London WC1H 0PF at £7.50.

A new journal concerned with all aspects of learning and teaching in a multicultural society has been launched by Trentham Books, under the editorship of Gillian Klein of the LEA Library Service. *Multicultural Teaching* will consist of case studies of professional practice, discussion of its aims and purposes and examples of its achievements. There will be reviews of new books and resources and information about courses, conferences and events of professional interest to postgraduate students. Correspondence concerning subscriptions should be sent to Mrs B. Wiggins Trentham Books, 30 Wenger Crescent, Trentham, Stoke on Trent ST4 8LE; suggestions for articles and MSS should be sent to the Editor, care of the Department of Education, University of Keele, Keele, Staffs ST5 5BG.

*The Language Monitor* by Harold Rosen, is a critique of the Assessment of Performance Unit's Primary Survey report "Language Performance in Schools". The Language Monitor is distributed by TINGA TINGA, a branch of Heinemann Educational Books. £1.95: ISBN 08473 134 2.

*Schools and Industry*, by Ian Jamieson and Martin Lightfoot, is based on the work of the Schools Council Industry Project. Large national curriculum development project designed to promote teaching about industry and industrial society. Particular attention is paid to the role of the CUI and the TUC, the two partners of the Schools Council in pioneering this project. (Schools Council Working Paper 71, published by Heinemann Educational: £6.95: ISBN 0 323 51070 3).

## Forthcoming Events

A conference entitled "School to Work - The New FE II" will be held at Courbe Lodge, Blagdon, Bristol between Monday January 17 and Friday January 21. The conference will focus on the local authority and the planning and implementation of provision for the "new student" across the L.E.A. Its membership will derive mostly from L.E.A. officers, but there will be representatives of the colleges and some of the major agencies. There will be discussion of the future of the CUI and the TUC, the two partners of the Schools Council in pioneering this project. (Schools Council Working Paper 71, published by Heinemann Educational: £6.95: ISBN 0 323 51070 3).

The Rev John Polkinghorne, formerly of Trinity College, Cambridge, will deliver two lectures at the Queen's University, Belfast, entitled "Science: Approach to Faith". The lectures will be held in the English Lecture Theatre, Main Building on Monday 17 and Tuesday January 18 1983 at 8.00 pm. Admission free.

## Open University programmes

### January 15 to January 21

Saturday January 15

9.00-10.00 Technology Foundation Course: Come to What You Mean (1) (T701) (prog 3)  
10.00-11.00 Come to the OU - 2 (prog 2)  
11.00-12.00 Science Foundation Course: Preparatory Maths - Algebra (S01) (prog MAF52)

Sunday January 16

9.00-10.00 Energy in the Home: That's the Way the Money Goes (P57V32) (prog 1)  
10.00-11.00 Computers: Decision: Semi-detached (P511) (prog 1)

11.00-12.00 The Pre-School Child: Give and Take (P12): 11.00-12.00 The Cuckoo Report 2: Looking into the Kitchen: What are the Solutions?

Radio 4 (VHF)  
6.55-7.00 Technology Foundation Course: Why Design it?

7.15-7.30 The First Years of Life: Mummies and Babies - Husband and Wife (P11) (prog 1)  
7.30-7.45 Health Colour: Blue Seas (P21) (prog 1)

Friday January 21

Radio 3 (VHF)  
23.00-24.00 Open - U: How to Make the Best Use of Printed Materials (prog 1)  
• repeated programme

## Grants

**Bradford**  
Physics: Dr H. S. Rehal and Dr C. D. Thomas, £24,940 from the British Technology Group for research into electrochromic materials.  
Mechanical and manufacturing systems engineering: Dr F. D. Coats, £15,570 from the Polymer Engineering Directorate of the SERC for research into thermoset injection moulding.  
Archaeological sciences: Dr J. Hunter, £25,000 from the Scottish Department in carry out archaeological investigations in the Bay of Foul, Sanday, Orkney.

**Exeter**  
Medicine: £11,300 from the Medical Research Council for research into the association of immunoglobulin genes with the auto-antibody response in rheumatoid arthritis under the direction of Dr V. E. Derynhouse, Dr R. K. Leach and Dr G. H. Hall.

## Glaxo

Zoology: Dr R. W. Furness, £25,682 from the Natural Environment Research Council, to investigate the feeding of seabirds in relation to natural fisheries.  
Natural Philosophy: Professor R. G. Moonhouse, £23,330 from the SERC for research into fundamental particle system dynamics.  
Pathology: Professor R. N. M. MacSweeney, £10,000 from the Burrell's Society to study immune mechanisms in alcohol liver disease.  
Biochemical sciences: Dr D. N. Brooks, £46,357 from the Scottish Home and Health Department to study the needs and problems arising from severe head injury.

## St Andrews

Applied mathematics: Dr A. D. D. Chalk, £24,680 from the SERC for research into wave interaction in fluid flows.  
Physics: Professor R. A. Stradling, £27,371 from the SERC for research into the intra-neurology of strabismic amblyopia.  
Zoology: Dr J. Somerville, £60,733 from the SERC for research into the influence of RNA-directed proteins.  
Biochemistry: Dr G. A. J. Goodlad, £24,853 from the Medical Research Council for an investigation of the mechanism for the regulation of actin polymerization.  
Chemistry: Dr A. H. Butler, £14,278 from the SERC for research into stopped-flow systems for reactions of biochemical interest.

## University College of Wales, Aberystwyth

Applied mathematics: Professor K. Walters, £57,334 from the SERC for study entitled "Measurement of Extensional Viscosity using a Spinning Rheometer and a Lubricated Die Rheometer": £18,800 from the SERC for the research in School of Mathematics in the Cambridge Non-Newtonian Fluid Mechanics" under the direction of Professor K. Walters and Dr A. R. Davies.  
Rheology: Dr P. Walters, £35,455 from the European Commission for an evaluation of methods of assessing the environmental impact of EEC policies in Wales.  
Chemistry: Dr J. O. Williams, £11,000 from the Procurement Executive, Ministry of Defence for a study of last optical switching using organic thin film components in the Cambridge SERC for a study of microprocessor controlled multiple frequency absorption and optical height measurement of surfaces.  
Physics: Dr E. R. Williams, £21,266 from the SERC for a study of microprocessor controlled multiple frequency absorption and optical height measurement of surfaces.  
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## University College of North Wales, Bangor

Multimedia and Computer Science: £23,244 from the SERC for use of Cray computer for research in plasma physics, under the direction of Dr H. C. Barr, Professor T. J. M. Boyd and Dr O. A. Gardner.  
Computing Laboratory: £150,000 from the SERC for the installation of a new computer system.  
Physical and molecular sciences: Dr A. E. Underhill, £22,100 from the SERC for a study of the effects of sulphur dioxide on the metal complexes, and £20,298 from the SERC for a study of one-dimensional metals based on complexes of sulphur dioxide ligands.  
History: Professor S. J. Woolf, £20,500 from the SERC for an investigation into the economic and social change in Italy within the context of the Renaissance.  
Napoleonic Empire: £100,000 from the SERC for a study of the Napoleonic Empire in support of a research project on Sheikh Abdullah Alwalaian.

# NOTICE BOARD

## Noticeboard is compiled by Patricia Sautinelli and Milla Goldie

## Fellowships

The following have been made fellows of the University College, London: Professor R. J. L. Hurry, dean of the school of urban and public affairs, Carnegie Mellon University, Pittsburgh, USA.  
Sir Ellis E. L. Clarke, GCMG, President of the Republic of Trinidad and Tobago.  
His Excellency Judge Teodor D. Elias, president, International Court of Justice.  
Professor Ruth Marlin Hickey, professor of experimental pathology, Massachusetts Hospital Medical School.  
Dr P. H. Kemp, reader in fluid mechanics, UCL.  
Dr R. Doherty, CBE, senior partner, Watson Hawkey Consulting Engineers.  
Miss Joan F. H. Urr, director, Office of Manpower Economics.  
Professor H. P. Rang, FRSE, professor of pharmacology and head of department, UCL.  
Dr N. S. Ridley, consultant pathologist, hospital for Tropical Diseases.  
Mr Eamonn Ughw, painter, Slade School of Fine Art, UCL.  
The following have been made Honorary Fellows:  
Sir Hugh Cusson, KCMG, president of the Royal Academy.  
Dr R. H. L. Denning.  
J. R. Stannett, CBE, principal, University of London.

## Appointments

General  
Sir John Kendrick, president of St John's College, Oxford, and Nobel Prize winner for chemistry in 1962, was elected chairman of the governing council of the United Nations University which concluded its twentieth session at UNU headquarters in Tokyo in December. Sir John was between 1978 and 1982 director general of the European Molecular Biology Laboratory.

Valerie Fidler, organizer of Croydon's adult education service for the past two years, has been appointed staff inspector for adult education and the youth service with the Inner London Education Authority.  
The centre for information on language teaching and research has appointed Mrs June Gear, previously research information officer at the centre, to the new post of linguistic minorities information officer.  
Dr Roger Dawe, the Munrovet Power Services Commission's director of youth training, has been appointed chief executive of the commission's recently formed training division. He succeeds Mr A. W. Brown, who is moving to a post in the Department of Energy.

Newcastle upon Tyne  
Personal readership in rural resources development in the faculty of agriculture: Mr Martin Whibley.  
Wales National School of Medicine (Ysgol Ffedydol Cymru)  
Readership in endocrine immunology: Dr B. Rees Smith, who is in the department of medicine has been promoted to a Readership in endocrine immunology.  
At the 73rd session of the council of CERN, the European laboratory for particle physics, Professor Ian Buxton, currently head of the physics department at Imperial College, London, has been appointed to succeed Dr Erwin G. Baerends as research director.

## Universities

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Personal readership in rural resources development in the faculty of agriculture: Mr Martin Whibley.  
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Manchester  
The court of the University of Manchester has conferred honorary degrees on the following:  
LL.B. Sir Denis Forman, joint managing director of Granada Television since 1963.  
Sir Sidney Hampson, chairman of the North West Regional Health Authority.  
Sir William Loris Mather, vice Lieutenant of Cheshire since 1975.  
Dr J. E. H. Williams, senior principal scientist officer Tory Research Station from 1954 to 1974.  
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# Courses

## THE CITY UNIVERSITY BUSINESS SCHOOL

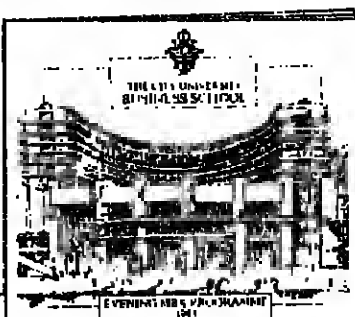
## Evening MBA Programme 1983

"This course has been designed to develop significant innovative decision makers who can take over the responsibilities of managing financial and trading institutions. I believe that this programme is one of the most exciting developments that has taken place in a British University for many years."

The course is divided into two stages. The first stage covers eight management disciplines which lay the foundation for the stage two special areas. Finally, under the supervision of both company senior management and The City University Business School staff, a within-company management consultancy project is undertaken.

The time period for the Degree is 2-4 years and involves two evenings a week.  
Applicants must possess either a first or second class honours degree, or an equivalent professional qualification.  
The course begins February 1983; for more information please contact:

The City University Business School  
Frobisher Crescent, Barbican, London EC2Y 8BB.  
Telephone: 01-920 0111 Ext. 234













## Colleges of Higher Education continued

## DEPUTY DIRECTOR

## CHELMER ESSEX INSTITUTE OF HIGHER EDUCATION

Required for 1st May 1983.  
Applications are invited for the above post (Group 9) for which the salary is currently £20,295 per annum.  
Closing date: 1st February, 1983.  
Application forms and further details available from the Institute Secretary, Chelmer - Essex Institute of Higher Education, Victoria Road South, Chelmsford, CM1 1TL.  
Telephone (0248) 354481, Ext. 221.



Christ Church College of Higher Education  
CANTERBURY

## ADDITIONAL SENIOR LECTURER IN MATHEMATICS

Required to assist in Primary Mathematics Curriculum course. Teaching course. Mathematics would be available to suitably qualified candidates.  
The college offers 2 A.A. 1st and 2nd degrees, B.Sc. and higher degrees in Education.  
Salary: Lecturer 11/Senior Lecturer 12/13 - £14,816 p.a.

For further details write to Mrs. Jean Love, Personnel Officer, Christ Church College, Canterbury, Kent, CT1 3AG. Tel: 01843 544444. Applications should be sent to Mrs. Love by 1st January 1983.

## Administration

## Central Register and Clearing House - Graduate Teacher Training Registry REGISTRAR-ELECT

Required to run these two clearing houses for teacher training courses. Registrars. The Registrars will retire in Summer 1984. Applicants (preferably 35/55) must be graduates, have experience of managing an organisation and a keen interest in education.  
Salary: NIC p.a. £15,000/14,576 plus L.A. £1,000/1,000. For further details write to Mrs. Jean Love, Personnel Officer, Christ Church College, Canterbury, Kent, CT1 3AG. Tel: 01843 544444. Applications should be sent to Mrs. Love by 1st January 1983.

## Administration continued

## Senior Assistant Education Officer (Education and Training)

Salary £15,306-£16,479

The task of co-ordinating and developing work in response to local and national initiatives relating to the education and training of young people in the 16-18 age range needs a person who has successful administrative or teaching experience in further education as well as in the school sector. The post offers considerable range for initiative in the joint fields of Schools, Further Education and the Careers Service.

Application form and further particulars (a.s.p. please) from the CHIEF EDUCATION OFFICER, COUNTY HALL, TOPSHAM ROAD, EXETER, EX2 4QS, returnable by 28th January, 1983.

This post is open to applicants of either sex.

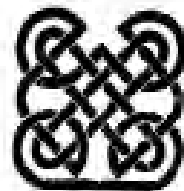
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## Research and Studentships continued

## BOLTON INSTITUTE OF HIGHER EDUCATION RESEARCH ASSISTANTS (Two posts)

Enthusiastic and well-qualified candidates are invited to apply for research studentships, leading to a higher degree, in PSYCHOLOGY, Department of Natural and Behavioural Sciences, and in other COMPUTER, NETWORKING, or DIGITAL SIGNAL PROCESSING, Departments of Social and Electronic Engineering.  
We would expect both research assistants to undertake tutorial duties during the two years of the studentship. The salary would be on the intermediate scale of £8,130-£8,508 per annum.  
Further details and application forms may be obtained from the Institute Secretary, Bolton Institute of Higher Education, Bolton BL1 3AB. Tel: 0204 344444. Completed application forms should be returned by 28th January, 1983.



## West Glamorgan Institute of Higher Education, Swansea

Applications are invited from well-qualified candidates for the following posts:

## Senior Lecturer in Educational Research

To join the Research Unit, under the direction of Dr Kenneth Field, in supervising serving teachers taking M.Phil/Ph.D. (CNAA) degrees and to assist with teaching on the B.Ed degree (University of Wales). Applicants must be Good Honours Graduates and have had experience of successfully supervising research to final submission. (Ref. HE24/10/83)

## Research Associate in Teacher Education

To join the Research Unit and undertake research in Primary School Management. Applicants should be recent Honours B.Ed graduates and will be expected to register with the CNAA for M.Phil/Ph.D. (Ref. HE24/10/83)

## Senior Lecturer in Business

To assist with the development of a CNAA Business Informatics degree and to teach on HND and other courses. Good Honours degree in Economics, Statistics or Management required preferably with a higher degree in the area of Information Systems. Research experience highly desirable. (Ref. HE23/10/83)

## Research Associate in Business

To undertake supervised research in Business Informatics. Applicants should be recent graduates in disciplines associated with Information Systems and will be expected to register with CNAA for a higher degree. (Ref. HE24/10/83)

## Lecturer 1 in Business

To teach on a variety of Business courses. Applicants should be graduates in the area of economics, law or accountancy and have a knowledge of Information Systems. (Ref. HE25/10/83)

## Lecturer 1 in Law

To lecture on a variety of Business courses. Applicants must be graduates in Law, and the possession of a higher degree would be an advantage. The successful candidate should have commercial experience and will lecture on Criminal Law and the Administration of Justice. (Ref. HE26/10/83)

## Senior Lecturer in Computer Aided Design

Applicants should be well-qualified Honours graduates with practical experience of Computer Aided Design, Manufacture and Test and a knowledge of light current engineering electronics and/or instrumentation. Research/Development and teaching experience desirable. (Ref. HE27/10/83)

## Senior Lecturer: Computer Based Management Information System

Applicants are invited from graduates for the above vacancy. The possession of a higher research degree would be an advantage. Applicants should have industrial or commercial experience and CNAA experience would be an advantage. The successful applicant will be required to lecture in design and implementation of Computer Based Management Information Systems and possess a knowledge of on-line systems, data-base techniques and information retrieval. (Ref. HE28/10/83)

## Senior Lecturer in Micro-Electronics

Applicants for this post must be good graduates and will be expected to teach at degree and TEC HD level. Ability to contribute to supervision of existing research work highly desirable. WQHE is involved with the Metal Box Co. at Nash in establishing an Information Technology Centre, under the direction of Dr Donald Bell, and successful applicants may be expected to give assistance with this exciting project in creating and marketing new products/services. (Ref. HE29/10/83)

## Senior Lecturer in Manufacturing Engineering

To teach on a range of engineering courses up to degree and TEC HD level. Applicants are invited from well-qualified graduates, preferably with research experience of high technology. Ability to assist local industries with the development of new product lines and re-generation of existing engineering products is essential. (Ref. HE30/10/83)

Senior Lecturer - £10,173-£11,984 (bar) - £12,816  
Lecturer II - £8,855-£11,022  
Lecturer I - £8,365-£9,981  
Research Assoc. - £4,630

Further details regarding these posts and application forms available from: Principal, West Glamorgan Institute of Higher Education, Townhill Road, Swansea SA2 0UT (a.s.p. please). Closing date for applications: 11 February 1983

## Colleges of Technology

## CITY OF DUBLIN VOCATIONAL EDUCATION COMMITTEE Dublin Institute of Technology

COLLEGE OF TECHNOLOGY, KEVIN STREET, DUBLIN 8, IRELAND.  
Applications are invited for the following permanent whole-time posts:-

## P.1. HEAD OF DEPARTMENT OF PHYSICS

The Department of Physics provides courses in Physics at Certificate, Technician Diploma and Degree levels. It is also responsible for a four year professional course in Ophthalmic Optics and for courses up to Advanced Certificate Level in Professional Photography. The Department has developed a research expertise and reputation in Optics and Medical Physics and post-graduate training is provided in these areas. The successful applicant will be expected to give strong academic leadership and be a competent administrator. The appointment will be made at Senior Lecturer 1 Scale.

Salary Scale 1R/13,453 to 1R/17,177 (under review)

## LECTURER I

K.1 Electronics and Communications Engineering.  
K.2 Inorganic Chemistry  
K.3 Industrial Chemistry  
K.4 Microbiology/Biotechnology  
K.10 Dietetics/Nutrition  
K.12 Materials Science  
K.14 Medical Physics (Instrumentation)  
K.15 Ophthalmic Optics  
K.16 Computer Science  
K.19 Electrical Engineering  
K.21 Modern Languages and Applied Linguistics  
K.21 Business and Management Studies

## COLLEGE TEACHER

C.21 Electronic Engineering  
C.22 Electrical Installation Work  
C.23 Photography  
C.25 Medical Physics (Physiological Measurement)  
C.26 Mathematics  
C.27 General Studies for Apprentices

## SALARY SCALE:

Lecturer I: 1R/13,453 to 1R/17,177 (under review)  
College Teacher: 1R/8,243 to 1R/13,992 (under review)

Incremental credit up to a maximum of 5 years may be permitted in certain circumstances.

Qualifications and Conditions of Service in accordance with Memo V.7 of the Department of Education.

Applications on the standard form, available on request, must reach the Secretary/Registrar not later than 12 noon on Friday, 18th February, 1983.

Chief Executive Officer, WPA, 100, Dublin 1

## General Vacancies

## Civil Service College COMPUTERS IN TRAINING AND EDUCATION LECTURER

The College provides a wide range of management training for civil servants at all levels. It is a specialist unit within the Civil Service College, which is a leading centre for the development of civil servants in the fields of management and training. The College is currently seeking applications for the post of Lecturer in the field of computers in training and education. The successful candidate will be responsible for the development of courses and the supervision of students. The post is a full-time position and the salary will be in the range of £10,000 to £12,000 per annum.

## Senior Lecturer in Manufacturing Engineering

To teach on a range of engineering courses up to degree and TEC HD level. Applicants are invited from well-qualified graduates, preferably with research experience of high technology. Ability to assist local industries with the development of new product lines and re-generation of existing engineering products is essential. (Ref. HE30/10/83)

Senior Lecturer - £10,173-£11,984 (bar) - £12,816  
Lecturer II - £8,855-£11,022  
Lecturer I - £8,365-£9,981  
Research Assoc. - £4,630

Further details regarding these posts and application forms available from: Principal, West Glamorgan Institute of Higher Education, Townhill Road, Swansea SA2 0UT (a.s.p. please). Closing date for applications: 11 February 1983

## Librarians

## University College Dublin

## ASSISTANT LIBRARIAN (GRADE 1) (Reappointment)

Applications are invited from suitably qualified candidates for two posts of Assistant Librarian (Grade 1) in the School of Library Studies, University College Dublin. The successful candidate will be responsible for the day-to-day running of the library and for the supervision of students. The post is a full-time position and the salary will be in the range of £10,000 to £12,000 per annum.

Applications should be sent to the Secretary, School of Library Studies, University College Dublin, Belfield, Dublin 4, Ireland. Closing date: 15th February 1983.

For further information and application forms, please contact the Secretary, School of Library Studies, University College Dublin, Belfield, Dublin 4, Ireland. Tel: 01-294 2211.

Further details regarding these posts and application forms available from: Principal, West Glamorgan Institute of Higher Education, Townhill Road, Swansea SA2 0UT (a.s.p. please). Closing date for applications: 11 February 1983

## Librarians continued

## HUDDERSFIELD POLYTECHNIC Polytechnic Library

## SENIOR ASSISTANT LIBRARIAN (Engineering)

Grade 501 £8,558-£9,231 Ret: N17738  
Applications are invited from professionally qualified graduates or Fellows of the Library Association for a post as Senior Assistant Librarian. The person appointed will be responsible for the day-to-day running of the library and for the supervision of students. The post is a full-time position and the salary will be in the range of £8,558 to £9,231 per annum.

## Overseas

## NATIONAL UNIVERSITY OF SINGAPORE

## CENTRE FOR EDUCATIONAL TECHNOLOGY

Applications are invited for appointment to the post of Director of the Centre for Educational Technology which will be set up at the National University of Singapore. Candidates should possess relevant qualifications and considerable experience in the area of educational technology. Preference will be given to those holding senior positions in a similar centre at a tertiary institution.

The successful candidate will be responsible for overseeing the functions of the Centre, which will include production of a range of audio-visual material for teaching purposes, advice on the purchase and use of related equipment, etc. He will also be responsible for the planning and development of the Centre in line with the development and expansion programme of the University.

This is a senior appointment as the post carries a salary range identical to that for an Associate Professor. Gross annual salary ranges from S\$74,020 to S\$101,250. The commencing salary will depend upon the candidate's qualifications and experience.

Leave and medical benefits are provided. Under the staff member's Academic Staff Provident Fund Scheme, the staff member contributes at the present rate of 20% of his salary subject to a maximum of S\$600 p.m. and the University contributes 22% of his monthly salary. The sum standing to the staff member's credit in the Fund, which is tax exempt, may be withdrawn when the staff member leaves Singapore/Malaysia permanently, or on reaching the age of 65.

Other benefits include: a housing allowance of S\$1,000 or S\$2,000, subsidised housing at rentals ranging from S\$100 to S\$216 p.m., education allowance in respect of children's education subject to a maximum of S\$12,000 p.e., passage allowance and home allowance for the transportation of personal effects to Singapore.

Application forms and further information on terms and conditions of service may be obtained from:

The Director or Mr R. E. Sharma  
Personnel Department Director  
National University of Singapore NUS Overseas Office  
Karl Ridge 6 Chesham Street  
Singapore 0511 London SW1  
REPUBLIC OF SINGAPORE United Kingdom  
Tel: (01) 235-4582

## DAS WISSENSCHAFTSZENTRUM BERLIN

Das Zentrum für wissenschaftliche Forschung, auch für internationale wissenschaftliche Forschung und Verwaltung ab April 1984 für 5 Jahre ein

## DIREKTOR für den Forschungsschwerpunkt Arbeitsmarktpolitik (Nachfolge Professor Scharpf)

Die Vergütung richtet sich nach der Besoldungsgruppe C 4. Die multinationale und multidisziplinäre Zusammensetzung der Arbeitsmarktpolitik soll auch weiterhin international vergleichende, soziale und wirtschaftswissenschaftliche Untersuchungen zur Arbeitsmarktpolitik und Beschäftigungspolitik durchzuführen. Der künftige Direktor soll in Zusammenarbeit mit dem wissenschaftlichen Mitarbeiter des Forschungsschwerpunkts für die Periode 1984 bis 1989 formell und verantwortlich leiten.

Gesucht wird ein in der internationalen vergleichenden, anwendungsorientierten Forschung ausgewiesener und in der Leitung einer größeren Forschungsgruppe erfahrener Sozial- oder Wirtschaftswissenschaftler. Bei ausländischen Bewerbern sind deutsche Sprachkenntnisse Voraussetzung.

Die Berufung wird vom Kuratorium des Wissenschaftszentrums Berlin, auf Vorschlag eines unabhängigen Beratungsausschusses ausgesprochen.

Antrag und Bewerbungen mit den üblichen Unterlagen sind bis zum 28. Februar 1983 zu richten an:

Professor Dr. Meinolf Dierke  
Präsident  
Wissenschaftszentrum Berlin  
Gregorstraße 5-7  
D-1000 Berlin 33

WZB  
Salary Scale: 1R/13,453 to 1R/17,177 (under review)

## STATE OF QATAR

## University of Qatar

Applicants are invited for the posts of Professor, Associate Professor and Assistant Professor, (equivalent to lecturers), for the academic year 1983-1984. Applicants for these posts must be in possession of a PhD at the time of application. Teaching in a recognised university or equivalent institution of tertiary education is essential.

## FACULTY OF ENGINEERING

## Department of Mechanical Engineering:

- Associate Professor in Machine Design.
- Assistant Professor in Dynamics, Vibrations & Control.
- Associate Professor in Power Systems.
- Assistant Professor in Fluid Systems.

## Department of Electrical Engineering:

- Professor or Associate Professor in Power Generation, Transmission and Distribution.
- Associate Professor in Electro Magnetic Fields, Electric Devices, Integrated Circuits.
- Assistant Professor in Computer Organization and Architecture, Control Systems.

## Department of Civil Engineering:

- Professor or Associate Professor in Surveying Geodesy & Cartography.
- Professor or Associate Professor in Highway and Transportation Engineering.

## Department of Chemical Engineering:

- Professor or Assistant Professor in Diffusion Operation & Transport Phenomena.
- Associate Professor in Staggered Operations and Rate Operations.
- Assistant Professor in Thermodynamics and Reaction Engineering.

## SALARIES:

Job Title	Annual Payment (12 Months)		Monthly Transport Allowance	
	Qatar Riyals	U.S. Dollars (approx.)	DR	\$
Professor	141000-155400	38525-42460	800	184
Associate Professor	120000-141800	32780-36690	600	184
Assistant Professor (Lecturer)	97500-111800	26640-30576	900	184

## Condition of Service:

- Free air-conditioned, furnished accommodation.
- Medical treatment is free.
- For Professorial Staff, first-class round-trip air tickets are provided annually, and for his spouse and up to three children under 19 years of age, other ranks receive economy class tickets.
- Tax Free.
- An interest free car loan of \$4132.
- Three months vacation.

Applications, together with non-returnable copies of academic qualification are to be addressed within 30 days of this advertisement to:

ACADEMIC STAFF RECRUITMENT COMMITTEE,  
UNIVERSITY OF QATAR  
PO BOX 2713, DOHA,  
STATE OF QATAR

## Courses

## Education Development Scheme

A number of Awards and Bursaries are to be offered by the Overseas Development Administration to enlarge the experience of men and women from this country who have been involved with education in developing countries, and to encourage study and research into aspects of education in these countries. Applicants must be British Citizens, aged 25-45, with a minimum of 8 years' overseas education experience.

## AWARDS:

one month to two years duration.  
Applicants should normally have a degree or equivalent qualification.

## BURSARIES:

one term or one year duration on a DES approved course  
Applicants should be qualified teachers with experience in formal or non-formal education.

Awards and Bursaries cover fees and provide an allowance towards living costs, books and stationery. The amount is determined by the circumstances of the candidate.

Closing date for return of completed application forms: 11 February 1983 for study beginning September/October 1983.

Further details and application forms from:  
Room E347, Education Division,  
Overseas Development Administration,  
Bland House, Stag Place, London SW1E 6DH.

Please quote reference number: ED 584/838/01 THES.



OVERSEAS DEVELOPMENT

BRITAIN HELPING NATIONS TO HELP THEMSELVES

## The University of Leeds MA IN HEALTH SERVICES STUDIES FULL-TIME AND PART-TIME

Applications are invited from graduates with a degree in health services studies, nursing, medicine, dentistry, pharmacy, or other health-related fields. The course is a full-time or part-time programme leading to a Master's degree. The successful candidate will be required to complete a dissertation. The course is taught by leading experts in the field and provides a wide range of opportunities for research and professional development.

Further details and application forms from:  
Kathleen Lee, Course Director,  
Health Services Studies, The University of Leeds,  
Leeds, LS2 9JT. Tel: 0532 755034.

## University of London MA IN AREA STUDIES (UNITED STATES)

The University of London offers a one-year course leading to a Master's degree in Area Studies. The course is designed to provide students with a broad knowledge of the social, economic, and political conditions of the United States. The successful candidate will be required to complete a dissertation. The course is taught by leading experts in the field and provides a wide range of opportunities for research and professional development.



# Don's diary

## Monday

Up at 6.30am as usual for another 8.00 lecture. Funny how quickly one gets used to the early start. And to the three-hour long lectures! What takes much more getting used to is the informality of the students. My injunction to interrupt the lectures for questions and clarification is taken to the letter, with most interruptions beginning "Frank...". Three-hour lectures have one nice feature, the hourly coffee breaks provide an opportunity to get to know the students on a social basis, and to tease out the points someone was reluctant to raise in the lecture. Spend the afternoon in my office collating material on Finnish immigrants to Sweden. Frequent interruptions by colleagues who want advice on points of English grammar. Promised lists of acknowledgments in future publications as a *quid pro quo*. Home to our village house to discover that the black sticker on the letter box doesn't mean that we're on someone's death list, but that we simply don't want any newspapers delivered.

## Tuesday

Another early start. Not a lecture today, but a question and answer session for Thursday's microeconomics exam. Find on getting to the lecture theatre that the overhead projector is a dud. So are all the projectors in adjacent theatres. All the more infuriating since I had combed the building for projectors and found that over three quarters of all the projectors were out of action. The appropriate authorities had promised speedy action, just promised. Resolve to get a colleague to take the matter up. It's difficult to be both effective and angry when the janitor's English is so poor. Students lead me to an audio visual store room, spend five minutes finding out the correct code for the electronic lock, and then discover that the two projectors inside are also broken. Begin the session with a 15-minute coffee break!

## Wednesday

A day at home spent on the Finnish immigration research. The Finns in Sweden have many features in common with the Irish in Britain. But the Finns are much better documented. The wealth of data on the Finns in Sweden is a byproduct of the *personnummer* system. Everyone here is allocated a number by the population register. Even if the population register is not up to date, at least in theory. Decide to find out how comprehensive the system is by checking if my family are registered. Contact the local church and find I'm registered, but wife and daughter are not. And we've been here 10 months! Wonder just how good all my data on the Finns is as a result. Work abandoned in the afternoon when the neighbours' children arrive to play. Embryonic anarchists. Resolve to work that night when all is quiet. *Dallas* on one of the three television channels means little temptation from that quarter.

## Thursday

The dreaded (by the students) microeconomics exam. A five-hour long exam to go with the three-hour long lectures. Students come well prepared with stacks of coffee, fruit, chocolate and dictionaries. Having got it off, I decide to return 90 minutes later to sort out any queries that have arisen. Go round each student individually. Queries range from "what do you mean?" (the question asked for a definition) to "what do we do this in lectures?" (quitting the hall, find a parking ticket, go to my car, I've parked in a student's car park rather than a staff

one. Not really my fault since all the notices are in Swedish. With typical Nordic efficiency the parking ticket is in the form of a bank giro for ease of payment. Decide to ignore it, nonetheless since our car is British registered.

## Friday

Begin the correction process. The frustrations of the examiner are universal: illegible handwriting, non sequiturs and simple omission of sections of a question. Begin the process at home but go in to Lund at midday to replenish alcohol supplies for the weekend. Alcohol is sold in Sweden only through the Systembolaget, the state-run liquor monopoly. Our village is too small to host a branch, though the hardware shop will take orders and supply the next day. No alcohol is sold on Saturdays or Sundays, so the weekend's consumption must be planned in advance. But Friday is not the day to do the planning. Spend 25 minutes queuing for two bottles. Console myself that they're cheaper than in Britain. Big advantage of the state monopoly, they can purchase wine in such bulk they get it at a lower price than anyone else. Wine is cheap, spirits expensive. Conclusion, buy your spirits in Denmark, which is only 30 minutes away. Hardy persons are reputed to maintain stocks of the hard stuff in the left luggage lockers on the Danish side in case they run out over a weekend.

## Saturday

No lie-in this week. A "disputation" is being held in the economics department. It's the Swedish counterpart to the British oral examination for a doctorate. In theory it's open to all, and all can have a go at the candidate if he's still standing after the official "opponent" has done his job. Today's proceedings are surprisingly lively, with the candidate, an Iraqi defending a thesis on Middle Eastern oil, giving the opponent a rather hard time. Depart after two hours to relieve our baby-sitter, the public admitted to disputations doesn't include 18-month-old infants. Go through to Malmö for the rest of the morning, wander round the old town. Sign numerous petitions for the release of Lech Walesa, the saving of the whale, etc. See an English production of *Don Quixote* by the Actors Touring Company that evening. Even in Lund (population less than 30,000) they can attract a full house. And one that revels in the subtleties of the play.

## Sunday

Spend the morning correcting the exam scripts. Make final arrangements for this evening's two-day visit to Oslo. Driving to catch the hydrofoil to Copenhagen from where the Norwegian ferry departs. An surprise to see the snow piled up on the road already on all the minor roads about our village. Hadn't quite realized that winter was all that imminent. Peel a bonfire for the snow poles, bamboo covered in fluorescent plastic. They proved invaluable on a few occasions last February as I returned from lectures, and just as valuable in the summer when we sport a bumper crop of runner beans. Make it to Copenhagen just in time. Settle in to enjoy the two days before the next marathon lecture.

**Frank Kirwan**

The author is a lecturer in economics at the University of Strathclyde who is spending the year teaching at the University of Lund, Sweden.

One of the experiences of academics interested in policy, whether scientific, economic or social, is the occasional trip to some foreign capital for an international conference. When the invitation arrives I always feel pleasure. Somehow it confirms one's status as what international organizations call "experts". Since some of us spend quite a lot of time struggling to keep abreast of the various areas on which we are meant to be knowledgeable and feeling exceedingly inexperienced, it provides a boost to confidence.

Such an invitation conjures up the delights of Paris, Rome or New York for two or three days with those generous *per diems* that allow the participant to eat in expensive restaurants without feeling guilty and to slip into the latest exhibition in the long lunch hour. It also provides a good excuse to have a break from the office and rushing home to cook supper for the family. One thing that is certain about international conferences is that they are rarely tiring, unless you are the organizer.

Moreover, for those of us who pride ourselves about not being parochial and who believe quite genuinely that we have as much to learn from how we do the same, international conferences provide an opportunity to learn a great deal. The participants from government departments, employers' confederations, trade unions, research institutes and universities give the invitee the impression that he or she will make excellent contacts as well as participate in stimulating debate.

That at least is the theory. Sometimes how or other it never quite turns out like that. There are a variety of reasons why one's expectations are never quite fulfilled. First of all the physical surroundings are rarely conducive to good open debate and argument. Rows of people at behind large plaques saying Royaume-Unie, Yugoslavia, etc. and surrounded by the clutter of equipment for simultaneous translation.

Then there is the problem of language. It may sound chauvinistic for anyone British to claim that the day we can manage with a single language for such occasions will be a great advance, because it is obvious that the only language that could be used is English. Nevertheless, the need for headphones and interpreters desperately trying to keep up with the participants' speeches including

## Better to travel than to arrive



**Tessa Blackstone**

their jokes and obscure vocabularies is not conducive to easy communication. I find myself torn between headphones and relying on my rusty French and German. Occasionally I give up trying with either and follow the example of the Japanese delegates who can frequently be observed wearing headphones with the sound off so that they act as earmuffs. When "the flesh is weak but the spirit is there" is translated as "the meat is soggy but the alcohol is ready" who can blame the Japs.

The next problem is the official delegates, who turn up with a prepared speech which represents their government's position, usually self-congratulatory or defensive or both. The East Europeans are especially prone to this but they are by no means the only offenders. The chairpersons on these occasions are always too polite or perhaps too frightened that it will provoke an international incident to shut them up.

A not dissimilar problem is that of the fanatical purveyor of vested interests: the trade unionist, who thinks he is still at the negotiating table; the academic who believes that research is the answer to every problem; the employer with a one-track mind about the appalling consequences of government intervention. All of these characters can be found at

national conferences but when recognized by their fellow participants for what they are they can be more easily exposed and criticized than in international fora.

Occasionally the papers, which are circulated prior to international conferences are excellent. They make use of international comparisons to raise interesting and pertinent questions about the issues being discussed or they provide information about other countries which would be hard to track down and pull together by an individual or group in one of the countries concerned. But all too often they have a pop-like quality; pages and pages of generalities written in internationalisms. This encourages a similarly empty debate at the conference.

This all sounds cringing and perhaps I should admit that I do not like any kind of conference very much anyway. Moreover why keep accepting if one is going to bite the hand of one's friends in the international organizations, who feed us? But as with love affairs that are not working, it always seems best to keep trying and hoping for better things. I am still not so cynical as some colleagues, who treat these events as a mere swan.

The swanning aspect in any case has its limitations. There is the tedious of travelling weighed down by the double-space photo-copied papers for the conference itself plus a whole lot of other papers some individuals bring with them in bulk and insist on thrusting into your unwilling hands. The foreign cities themselves often turn out to be a bit of a disappointment.

Even the most exhilarating city has its limitations when explored alone. Some people can sit by themselves in smart restaurants developing their capacities as a gourmand. Others, like myself, would rather snitch a hot dog from a street stall than sit in isolation in a Michelin three star establishment.

I don't know what the solution is. I am sure we should not abandon these exercises in international contact and cooperation. But I am equally sure we need to join a wider formal and think out how to improve them. As a start I suggest we have to overcome our unwillingness to be forthright and critical of what people from other countries say. Learning from others will only take place when we stop being reluctant about criticizing and questioning them as well as ourselves.

berwick Green.

A conspiracy theory of the world is a great comfort. What, however, is so arresting (sic) about the present assault upon the human values carried by the welfare state, and the universities as, surely, their proper guardians, is that there is nothing conspiratorial about the assault. Forces and motives that are, in fact, our own senior officials, a university community which allows things to happen to it as they say, only itself to blame. In this country, the long academic neglect of either class or intellectual interdependence combined with the deep absence in those communities most dedicated to the idea of community of mutuality, cooperation, lack of shrewdery, an honest respect for the innumerable varieties of human inquiry, ferment and the promotion of what Stefan Körner calls the "present tidal wave of hypocrisy and self-interest".

When all is said and done about the exclusiveness, brilliance, and resistance of the numerical sciences, it remains obviously true from the evidence of all human failure, that it is much harder to practise the human sciences and the care of persons than anything else, and that it is much the most important thing to do. The obvious and paramount difficulty of the human sciences is not, whether they are elected, appointed, or emerged from the normal process of consultation, to speak in their ears of the best values of British political culture is to speak an unknown tongue. They will allow, doubtless, the scholarly criticism of texts as the proper study of English departments, or the critical scoring of music as the proper duty of music departments; each as cultivated adjuncts of the economy. But they do not allow either for the practical improvement of everyday life (for example, building technology, help to the deaf) nor for the necessary visioning of the good life as essayed by St John the Divine, St Thomas More, and at the university of Cam-

**Fred Inglis**

The author is reader in education at the University of Bristol.

## Need for policy research in field of higher education

Sir, - May I welcome your leader of January 7 and, on behalf of the Society for Research into Higher Education, wholeheartedly endorse your argument for sustained and sophisticated policy research in the field of higher education. Even though there is a financial squeeze the sums of public money invested deserve greater investigation but the public has a right to expect those policies to be monitored and evaluated once implemented. Currently we do not even keep adequate running records of the decisions made by such bodies as the Council for National Academic Awards and the National Advisory Body (NAB) which, quite as much as Government policy, fashion the education system we end up with.

As you say, it is unrealistic to suppose the society could on its own do the job required. It could, however, make a significant contribution. The society is peculiarly well placed: its membership crosses the binary line both in terms of individual members and institutional membership, and a large proportion, if not all, of those studying higher education - the entrepreneurial professors, the mainstream academic researchers in higher education, the senior administrators in national agencies, and the enlightened representatives of special interest - all are gathered as members on equal terms under its umbrella.

Over the last two or three years the society has been turning itself into a more and more effective pressure group on the needs for research. Not only has the Leverhulme study brought together researchers, politicians, civil servants, journalists and other interested parties, but the council of the society has begun a series of meetings with politicians and administrators at a national level.

There are a number of key roles the society is now in a position to play. It could for instance relay the research needs of national institutions to the research community. In educational management which might be the same way that it currently relays the needs of research to educational management. It could provide the expertise for public funding. The society itself could organize research consortia, bringing together people from different sections of the education system. It could hold funds and commission research. It could undertake some research itself, if it is particularly suited for working on those areas where independence and disinterest are paramount such as monitoring the progress of national bodies; the NAB for example.

As you so rightly say, such investigations do need financing. The society is sustained by its membership fees. It does have some research funds but these contribute negligibly to the running costs of the society. Should the society undertake some research projects in its own right these could be funded on a discrete basis. However, if any of the other functions mentioned above were to be undertaken then some continuing guaranteed income, presumably from public funds, would be needed.

The society would fully endorse your call for a centre for the study of higher education. However, were such a centre established, it should not allow the easy assumption that the necessary has been done. The area of study is large enough, complex enough and expensive enough to warrant it being a subject of study in a number of research institutions. It is also important that study does not concentrate on policy issues alone for policy has to be implemented and for that to happen we need to know much more about how our educational institutions work. The voice of policy studies, and the disciplines of economics and politics, has led to little regard being paid to the study of institutions as

Letters for publication should arrive by Tuesday morning. They should be as short as possible and written on one side of the paper. The editor reserves the right to cut or amend

## LETTERS TO THE EDITOR

### Conditions of work for UGC members

Sir, - In his talk to the Parliamentary and Scientific Committee, summarized in your issue of December 17, Dr Parkes did not refer to the conditions under which, from 1979 on, he as chairman and his fellow members of the University Grants Committee were obliged to carry out a task far more demanding than any could have expected when appointed.

In their eagerness to achieve good marks for "economics", the Department of Education and Science cut the staff of the UGC from around 125 to 75. Included in the general reduction was the particular downgrading at the top, where one deputy secretary and two under-secretaries were reduced to one under-secretary, at a period when a more sensitive government might have supposed that the UGC stood in need of the highest administrative skills available. The burden placed on Dr Parkes himself can be imagined, he being the only full-time member of the UGC.

Which leads to consideration of

the role of the individual members. One trusts that the recent exercise is one-off, not to be repeated in depth, although with the demographic downturn soon to reinforce the economy drive, some continuation appears likely. That the UGC has assumed a more interventionist stance than in the old quinquennial days is surely irreversible.

If this is so, one should recognize that the gentlemanly conditions of earlier times are no longer appropriate. With few exceptions, members of the UGC are engaged in other full-time jobs, mainly as heads of university departments now themselves under stress.

Dr Parkes argues that knowledge of work in particular universities can largely be acquired as a by-product by an active, lively-minded practitioner such as himself when a professor of engineering. Up to a point of course this is true. But justice must be seen to be done and a brief encounter in the Athenaeum or at the Royal Society may not appear a

convincing basis for judgment to a department which has not been visited by the all-important subject sub-committee for several years. In other words, membership of the UGC should be recognized as a part-time job, with academic salaries safeguarded but with some financial compensation available to the university departments directly affected by the necessary absence of one of their senior staff. In so far as non-university members are concerned, perhaps something a little better than the current derisory attendance allowance could be offered.

The pressures on the UGC (I write as a former member) could encourage the notion that the solution lies in handing the whole exercise over to the DES. I am sure that many shrew my view that this way lies disaster. To listen to Professor H. S. Ferns's "commercialization" proposals, except as an adjunct, must be more disastrous still. BARONESS WHITE, House of Lords.

### Welsh merger

Sir, - Following your report on recent resolutions of the senate and council of the University of Wales Institute of Science and Technology about integration with University College, Cardiff, you published a letter (THES, December 34) from the vice-principal (administration) and registrar of the college. Perhaps you will allow me to outline the position at the UWIST.

Staff at the UWIST continue to be very disturbed by the oft repeated suggestion that the UWIST asked to be "taken over". The principal of University College was accurate when in his statement to the UCC senate in February 1981 he reported that the principal of the UWIST had "suggested that UCC might consider the possibility of inviting UWIST to operate with it as a single institution, though co-education would take a significant time to bring about".

The council and senate of the UWIST share a deep concern at the absence of any academic plan aimed at achieving excellence in the proposed new college and at the lack of progress in resolving associated pre-requisites. These include an agreed plan for a sites and buildings; the settlement of doubts about the financial position; the disposition of academic resources; and the resolution of personal positions.

The UWIST is proud of the progress that it has made since it entered the University of Wales in 1968 and of the high scholarly standing of its departments. The vocational courses closely linked to industry and the professions bring a unique blend of university education to Wales. The UWIST wishes to be assured, on the basis of plans for agreed academic development, that the new college is planned to provide a still better society.

It is recognized that inadequate buildings at the UWIST have handicapped progress. Although the commissioning of the Abercromby building in 1982 goes a long way to remedy the position, the immediate trigger for the creation of the new college was the promise of a further, substantial improvement.

The UWIST is concerned that the financial balance within the two colleges before a merger should be such that the security of the jobs of staff in the new college should be no less than in either college separately. Proper arrangements on the personal positions of staff in difficult areas, such as headship of operations that are to be merged, must be agreed. In particular there must be an agreed plan for a single administration with proper jobs for all present employees, who wish to work for the new college.

The work of a technological university depends on a proper funding of supplies and materials to departments. A continuation of the level now enjoyed by the UWIST departments must be secured. The UWIST believes that the fulfilment of the desire to create something bold and imaginative is likely only on the basis of proper planning now. F. HARRIS-JONES, Registrar, UWIST.

### Truth about Cyril

Sir, - That such a short article, viz "Greeks Upset Slavs Over Cyrillic Tradition" (THES, December 24) could contain so many mistakes is disturbing.

1. Macedonian is a language (and not a dialect of Bulgarian), since the Macedonian people so consider it. This is the yardstick for calling Flemish a language (and not a dialect of Dutch), Estonian (and not a dialect of Finnish), Norwegian (and not a dialect of Swedish or Danish).

2. Cyril (a saintly name taken only on his death-bed in Rome in 869 - before this he was called Constantine) and his elder brother Methodius were neither Macedonians nor Bulgarians. They were Greeks. Yet, born and brought up in Salonika (modern Thessaloniki), a town with a mixed Greek and Slavic population, they were fully conversant with both languages.

3. The Slavic tongue in Salonika was, linguistically speaking, a Macedonian dialect (and not a Bulgarian one). 4. The language devised by Constantine and Methodius was based primarily on this Macedonian dialect, but not identical with it. It was a literary language, artificial to the extent that every literary language is artificial.

### Oxford admissions

Sir, - As a sixth-former who has been "through the mill", applying to Oxford in the past few months, I feel entitled to comment on your article "Oxford seeks new admissions system" (THES, December 31).

First of all, a prospective candidate who cannot understand the admissions procedures after reading the rewritten version of the book *Admission to Oxford* (available free to all candidates) deserves as little consideration as a candidate who fills in his or her age incorrectly on the UCCA application form. College admissions tutors have made it clear that they are only too willing to advise on suitable procedures for different candidates, though for the benefit of posterity I offer the advice given to me by the admissions tutor of an ancient and respected college: "If a candidate, say from a comprehensive, who has only one chance (in his fourth year in the sixth), says he does not want to attempt the entrance exam, I would want to know why, because the subject tutors who

mark the scripts are used to making allowance for candidates who have either not covered the A level syllabus or not had any special teaching. So the advice tendered is to sit the exam; the other procedures are not easy ways out. Given this attitude, it is not hard to see that any attempt to abolish the entrance exam would meet with strong opposition from the dons themselves.

Secondly, has nobody been brave enough to state the most obvious reason why Oxbridge has a way above average proportion of privately-educated men? Different class-cultures still exist, and different classes have different social aspirations. A mere reorganization of admission procedures will hardly produce a change on the face of society. Constructively though, I would like to suggest to your readers that difficulties of getting into Oxford and Cambridge are always overestimated in schools.

Yours sincerely, WILLIAM ARTHURS, 46 Acorn Road, York.

### Class and choice

Sir, - Tessa Blackstone in her comments (THES, December 17) on the under-representation of certain groups (the working class and women) in the UK in the university population voices a concern in common with a recent report from the Canadian Association of Adult Education (University Affairs, December 1982). In Canada there are women and lower socioeconomic groups but no working class. However, I think in both cases the concern is viewed too simply. It is assumed that members of the working class (lower socioeconomic groups) do not make choices not to go to university and for women, not

to be engineers. The models school students see of life styles and careers of the university trained in school and in the media may not appeal to them. (A study completed in a local high school shows that students believe they make their own career choice.) In the USA after the 1980s some middle and upper-class students did not see higher education as an answer. Exposure to other models and fuller information will alter choices but they remain choices. JOHN KENYON, Université Sainte-Anne, Pointe-du-L'Église, Nouvelle-Becse, Canada.